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## ALTERNATIVE APPROACHES TO FINANCING A NATION-WIDE SHELTER PROGRAM

Prepared for:

OFFICE OF CIVIL DEFENSE  
DEPARTMENT OF THE ARMY - OSA  
WASHINGTON 25, D.C.

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OCD WORK UNIT 1631A

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STANFORD RESEARCH INSTITUTE  
MENLO PARK, CALIFORNIA



January 1964  
(Updated April 1966)

# **ALTERNATIVE APPROACHES TO FINANCING A NATION-WIDE SHELTER PROGRAM**

## **A Contributing Investigation to the 'Area-wide Shelter Systems Study'**

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By: Ernest C. Harvey

SRI Project MU-4536

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ALTERNATIVE APPROACHES TO  
FINANCING A NATION-WIDE SHELTER PROGRAM

By Ernest C. Harvey

Stanford Research Institute

January 1964 (updated April 1966)

OCD Work Unit 1631A

SHORT SUMMARY OF FINAL REPORT (Detachable)

This report presents the results of a preliminary examination of alternative approaches to the problem of financing a nationwide shelter system. Current practices applicable to capital investments by individuals and other segments of the private sector are discussed, some of the problems with respect to their utilization for shelter construction are listed, and incentive programs which could encourage action in this area are analyzed. In addition, local sources of funds and state and federal aid programs are discussed as a basis for evaluating the extent to which each of these levels of government could participate. With respect to federal and state programs, particular attention is given to the possibility of combining civil defense considerations with existing program objectives and to the identification of techniques that might be applicable to a separate national program designed to develop shelter capability.

In general, all approaches other than one involving 100 percent federal funding appear to offer limited potential. However, several aspects of the financing problem warrant additional research prior to a national-level decision regarding financing.

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## I INTRODUCTION

The basic premise underlying the discussion presented in this report is that a nationwide program to provide fallout shelter capability for the entire population is desirable. Detailed specifics of this program, particularly with respect to variation from area to area, are not defined. It is assumed, however, that prior to implementation of a large-scale program such definitions would be developed and estimates of cost would be prepared.

The optimal approach to the problem of providing shelter capability for the entire population is a function of the basic objectives of the program with respect to timing, extent of local participation, administrative responsibility, distribution of burden, and other factors. If, for example, rapid attainment of 100% coverage (during a period of, say, little more than construction time) is desired, certain program implications become apparent: the program must, in all likelihood, be mandatory; a large proportion of federal funds would be required; and the federal government must determine both administrative and engineering standards in such a way that variations in need from area to area are properly recognized. Under time pressures of this magnitude, financing alternatives would be severely limited, at least in the initial stages.

If gradual attainment of 100% protection over perhaps 10 to 15 years is the objective with respect to timing, more flexibility in financing is available. The optimal system under such timing requirements could include funds from private, local government, state government, and federal government sources with similar variety in administrative organization and responsibility. However, regardless of the timing requirements assumed, there are difficult questions with respect to coordinating a variety of efforts of varying degrees of efficiency, reconciling differences in ability to provide the necessary funds, both among and within states, generating widespread public acceptance, and determining an equitable distribution of the burden.

Although the cost of providing nationwide shelter capability will be met from the income of the American people, the basic question of distribution of the burden is difficult to resolve and can be expected to cause considerable controversy. In the case of many national programs, such as the development of offensive weapons, the development and operation of foreign bases, and the operation of foreign aid programs, the decision with respect to extent and cost is made nationally and funds are obtained from general tax revenues. If a nationwide shelter program can be regarded as of the same general type, a theoretical argument could be made for federal assumption of major responsibility, at least with respect to capital cost. Proposed expenditures would have to be subjected to the same scrutiny as is given those of other major programs and decisions would eventually be made on the basis of Congressional evaluation of the relative merits of the program.

On the other hand, if a shelter program is regarded as providing a direct benefit to individuals it could be argued that some process should be devised for allocating the cost in accordance with benefits received. An extreme approach would involve a per capita tax. A less drastic approach would be a wage tax such as that imposed to meet the cost of Old Age, Survivors, and Disability Insurance (OASDI) benefits. The latter program, although relying upon a flat contribution rate applied to taxable earnings, contains some progressive elements and cannot be regarded as a strict benefit theory approach. Further modifications to reflect ability to pay, recognized in many federal and state programs, could also be considered.

Even if a theoretically optimal method of allocating burden could be devised, political realities must also be considered. In view of the widespread public apathy and the currently more pressing and tangible demands of many other programs, not only at a local level but at the state and federal levels, such an approach may not be feasible, even if national leaders were satisfied that a shelter program should be given high priority. Furthermore, because of certain fundamental characteristics of a shelter program--direct involvement of individuals, the requirement for participation by local organizations and supporting



services, and the importance of minimizing cost through multi-purpose utilization of space--a less desirable program in terms of relative tax burdens might turn out to be the most effective in the long run. Such a program might include the following characteristics:

1. Maximum participation by individuals and by other segments of the private sector;
2. Employment of incentives or tax concessions rather than direct governmental payments whenever possible;
3. Utilization of existing programs and administrative organizations and associated financing techniques wherever appropriate;
4. Federal guidance, direction, standards, and aid in administrative and operating aspects, with aid in construction only to the extent required to insure orderly development of shelter space and equalization of burdens.

Encouragement of shelter construction by the private sector would reduce the direct federal outlay required and the resulting pressures on the Congress. However, depending upon the techniques employed to stimulate private participation, governmental revenues would also be affected and there would be a shift in the allocation of the burden to taxpayers.

There are both advantages and disadvantages to an attempted integration of civil defense activities with on-going programs. In general, the following advantages can be cited:

1. An administrative mechanism exists for both planning and funding purposes;
2. Structures may be involved that could be modified prior to construction at considerably less cost than after completion of the project;
3. Although the shelter space provided may not be located where it is currently most urgently needed, it can at least form a part of a future comprehensive system and may well be the most practical approach given current public attitudes.

A number of disadvantages can also be listed for this type of combination approach. The shelter space potentially provided will not necessarily be related to need or determined on the basis of a national

evaluation, area by area; it obviously would not be in accordance with a long-range plan developed independently for orderly development of protection. Since existing programs are designed for purposes other than civil defense, potential capacity may not be needed in some cases and in other cases may not be as cheap or as efficient as possible alternatives. The need for careful evaluation, in each specific case, of the effectiveness of combined activity is obvious.

Furthermore, it is likely that the use of funds for provision of substantial shelter capacity could not be approved for many if not all of these programs without specific recognition in the enabling statutes. In other words, Congressional approval would in many cases be required and in some cases approval by state or local governments would also be necessary. The ensuing public debate would bring to light the fact that such provisions, in effect, represent diversion of funds from program objectives to civil defense. Since most advocates of existing programs would argue that they are under-funded, this would raise the crucial question of why shelter construction is being attempted through the back door, particularly when the results may not appear to form an integral part of a long-range plan to provide shelter for the nation.

Although the approach discussed above is essentially a patchwork approach and one that cannot be accomplished rapidly, it does provide certain benefits in the sense that individuals become directly involved and local, state, and federal governments are required to work closely together toward a common objective. In evaluating such an approach, attention must be given to the problems of ensuring effective integration of patchwork elements and of minimizing differential burdens.

This report is the result of a preliminary attempt to examine alternative approaches to the problem of financing a nationwide shelter system and to assess their potential contributions and the problems associated with their utilization. Current practices applicable to capital investments by individuals and other segments of the private sector are discussed, some of the problems with respect to their utilization for shelter construction are listed, and incentive programs which could encourage action in this area are analyzed. In addition, local sources of funds and state and federal aid programs are discussed

as a basis for evaluating the extent to which each of these levels of government could participate. With respect to federal and state programs, particular attention is given to the possibility of combining civil defense considerations with existing program objectives and to the identification of techniques that might be applicable to a separate national program designed to develop shelter capability. It was not the purpose of the report to treat any of the many ramifications of this problem exhaustively. Descriptive sections are brief and analysis is confined to the identification of alternative approaches and the problems associated therewith. Certain areas warranting additional research are also suggested at various points in the text and are listed in the Summary.

The research was undertaken in late 1963 by Ernest C. Harvey under the administrative direction of Richard I. Condit. The document has been reviewed generally and updated to the current time period (April 1966).

## II FULL SUMMARY

### The Private Sector

Governmental programs designed to stimulate the provision of shelter capability by the private sector could be applied to individuals, residential developers, or owners of private residential or nonresidential buildings. Techniques employed could range from mandatory requirements to direct subsidies.

The cost impact on an individual of providing shelter space as a part of a new home will vary with the price of the house, the type of loan employed, and appraisal practices. Given current public attitudes towards shelters as reflected in appraisal practices, the cost of a shelter, or at least a substantial part of its cost, will be added to the down payment requirement. In view of the initial importance of the down payment to many prospective home buyers and the increasing tendency towards minimum equities (occasioned, in part, by increased population mobility), incentives designed to effectively lessen the financial burden on individuals will be required if a home shelter program is to be successful. With respect to existing properties, FHA-insured loans can be obtained for shelter construction but there has been little response to this provision.

In view of the importance placed upon state and local functions both by tradition and by law, a nationally-legislated requirement that shelters be provided in all new housing, as is employed in some European countries, would not be feasible in the United States. However, mandatory provisions could be legislated into the FHA and VA programs. Incentive provisions, in the form of guaranteed 100 percent financing, tax deductions, or tax credits, could be employed either to complement the mandatory requirements or in the absence of such requirements. An additional incentive would involve exemption of the shelter "improvement" from assessment for local property tax purposes.

The numerous problems associated with each of these proposals are referred to in Chapter III. Further research would be required to assess

their potential effectiveness and over-all impact. But, before methods to stimulate individual activity are implemented, it would be necessary to delineate more exactly the need for individual shelters as a part of a nationwide program.

A variation of the concept of individual provision of shelters is the encouragement of the developers of residential tracts to provide shelter capability either as a part of each property or as a community facility. Again, mandatory provisions could be legislated into the FHA or VA programs or incentives could be instituted applicable to the developer or to individual buyers. Provision on a tract basis or as a part of cooperatives, condominiums, or leased land housing projects offers some advantages in that community rather than individual arrangements can be made and a management group already exists or can be established to assume responsibility for planning or maintenance functions. As in the case of programs designed to encourage individual action, numerous problems are associated with efforts to stimulate developers; further research would be required to ascertain effectiveness and over-all impact.

The effect of providing for shelter capability in buildings constructed for lease or rental is to reduce return on equity to the extent that increased cost is not offset by increased income due to effective utilization of space or by tenant response to the availability of shelters. In the case of owner-occupied buildings, the impact is upon profits and depends upon space utilization and the value placed upon continuity of management and ability to resume operations after an attack.

Mandatory steps could be taken through FHA in the area of multi-family housing and through governmental contracting agencies in the case of industry. The potential coverage of both is somewhat limited and would have some discriminatory impacts. Possible incentives include guarantee of financing, exemption from assessed evaluation, or reduced interest rates; difficult problems are associated with each.

### Local Government

It is difficult to generalize concerning the role local governments could or should play in the development of a nationwide shelter program because of wide interstate differences in type and number of units of local government and in statutory and constitutional restrictions applied to tax revenue and bonded indebtedness. However, it is apparent that local government, in general, is short of funds, particularly capital funds, and that constitutional and statutory restrictions have contributed to the rapid increase in the number of governmental units.

For many local jurisdictions the only alternatives available are the formation of special or assessment districts or resort to lease-purchase financing. These alternatives are neither uniformly available nor uniformly practicable across the nation. But regardless of the approach attempted, public support (to varying degrees) would be required. In practice, the ability of local jurisdictions to finance a major capital program could be precisely evaluated only on a locality-by-locality basis.

### State Government

State aid to local jurisdictions for capital purposes has taken the form of loans, grants, and shared revenues and the use of building authorities and incentive or other devices. The extent and characteristics of such aid vary from state to state.

The availability of capital funds for this purpose will also vary by state because of historical differences in capital requirements, differing emphasis placed upon available tax sources, and differences in the distribution of responsibility between state and local government for performing and financing governmental functions. In the case of California, substantial capital outlays in the future are expected to require bond financing unless modifications are made in the tax structure.

### Federal Government

Federal aid to state and local governments has become a major factor in the financing of essential governmental services. The programs involved embrace varied functions, and aid takes the form of both grants and loans.

In general, federal loan programs involving capital funds encourage the use of private sources and operate as a supplement or as a direct source of capital only where reasonable terms cannot be obtained through normal channels. Although these programs do not preclude the inclusion of shelter capability in construction plans, there has been virtually no demand for such capability. Mandatory provisions could be incorporated into these programs but would have limited over-all impact and might affect program objectives adversely.

Use of existing grant-in-aid programs as vehicles for expanding shelter capability would appear, on the basis of preliminary evaluation, to have limited potential. It would be desirable, however, to ensure that civil defense requirements be explicitly considered by those concerned with capital projects to which the federal government is contributing, without necessarily requiring that shelters be constructed.

Experience gained with major federal aid programs could form the basis for designing a civil defense grant-in-aid program incorporating current activities, a construction program, and support activities. However, since grant-in-aid programs involve state or local contributions of a direct or indirect nature and since state and local financial resources in general appear to be strained, such a program may not be effective.

### Research Requirements

The analysis of alternative approaches to the financing of a nationwide shelter program contained in this report is sketchy. In the course of the analysis several areas warranting more detailed research were identified. Some analysis of these areas should be undertaken before firm financing decisions are made at the national level. They include the following:

1. The potential impact of mandatory provisions and of incentives applied to the private sector and the associated implementation problems. Particular attention should be paid to the development of group capability. Analysis of potential impact would include evaluation of effectiveness as well as estimation of the effect on the mortgage lending market and on institutions involved in financing.
2. The potential impact of current trends in housing--planned communities, condominiums and cooperatives, leased land developments--on the provision of community shelter capability. The analysis should cover expected growth and regional distribution, legal and administrative characteristics, and incentive programs likely to be effective.
3. Analysis of the factors influencing corporate decisions to undertake civil defense programs, particularly the development of shelter capability, as a basis for encouraging this type of activity and designing minimum cost incentives.
4. Development of data on financing capabilities of local governments with emphasis on regional variations, as a basis for assessing the role that can be played by local government either independently or as contributing partners in a federal-state-local program.
5. Assessment of interstate differences in ability and willingness of state governments to allocate capital funds to shelter construction. Research should also include analysis of the impact of substantial increases in state bond offerings in terms of marketability and cost, with emphasis on interstate differences.
6. Program-by-program evaluation of effectiveness and impact of mandatory provisions requiring provision of shelter capacity, where feasible, as a condition of obtaining federal funds. Preliminary evaluation suggests that the Urban Renewal Program would offer the most potential, but possibilities in other programs should not be ignored.



In connection with each of these research areas, some analysis should be devoted to assessing the implications of the various proposals with respect to the distribution of the burden of the large sums of money involved. Information of this sort will be essential to an adequate justification of any follow-on program of shelter construction.

### III PROVISION OF SHELTER CAPABILITY BY THE PRIVATE SECTOR

#### Sources of Funds for Mortgage Lending

##### Institutional Lenders

The mortgage lending market is dominated by institutional lenders--life insurance companies, commercial banks involved in the savings business, mutual savings banks, and savings and loan associations. Most life insurance companies and mutual savings banks invest their funds through mortgage bankers who make loans in their respective communities and act as correspondents for the life insurance companies and mutual savings banks.

Although there is some variation in the scope of activities of these institutional lenders the types of loans made can be categorized as follows:

1. Life insurance companies make conventional loans on all types of property and represent the major source of funds for large loans such as those on commercial properties, industrial properties, shopping centers, and hotels. They also invest heavily in FHA-insured and VA-guaranteed mortgages.
2. Commercial banks and mutual savings banks have concentrated on single family dwelling mortgages. They also have invested heavily in FHA-insured loans and some have invested considerable sums in VA-guaranteed mortgages.
3. Savings and loan associations confine themselves almost exclusively to one- to four-family dwellings employing conventional loans to a considerable extent.

##### Non-Institutional Lenders

Non-institutional lenders consist of a wide variety of organizations and individuals, many of whom specialize in certain types of properties. Such lenders include individuals, trust departments of

banks, title companies in some areas, mortgage investment companies, universities, colleges, and other types of endowed institutions, pension funds of various types, real estate brokers, executors of estates, and others. A considerable amount of the business of these lenders is originated and handled by mortgage bankers.

No uniform lending practices are followed by these lenders, and in general they are not subject to federal or state law or regulated in any way. As a consequence they can take, and generally do take, greater risks and charge higher rates of interest. They do not employ the credit analysis procedures that have been developed by institutional lenders. In practice, however, non-institutional lenders represent a relatively minor source of funds for mortgage lending and their prime importance is in the second and third mortgage market.

#### Government Sources of Funds for Mortgage Lending

A number of government agencies have been directly involved in mortgage lending, although typically, the total impact of these agencies is relatively small. The Veterans Administration, under legislation enacted in 1950, is committed to make direct loans to veterans in areas where funds are not available from private lenders. This activity has had little effect upon the VA home loan mortgage market, however, since it is a relatively small proportion of the total volume of such financing. The Federal Home Loan Bank System, created in 1932, was authorized to provide credit for thrift and home financing institutions. Currently, however, it operates mainly for the benefit of savings and loan associations. There are also a number of other government agencies which are indirectly concerned with some form of mortgage financing, such as the Farmers Home Administration and the Federal Farm Loan Bank System.

#### Availability of Mortgage Funds for Shelter Construction

Assessment of the availability of mortgage funds is complicated by many factors and is beyond the scope of this report. However, some of the determinants of the supply of and demand for these funds will be

discussed briefly as background for the evaluation of private sector contribution to shelter capability.

Personal savings constitute the basic source of mortgage funds. Since savings are a residual determined with reference to income and expenditure, their volume is affected by the many factors governing spending decisions and is characterized by considerable fluctuation over time.

The allocation of savings between mortgages and other alternative uses for funds, such as securities of corporations or government agencies, is also a function of many variables. The demand for housing, determined largely by population and income factors, and the capital demands of industry and government have an important influence on allocation. But other factors such as investment policies of investors, changing roles of the various institutional lenders, and governmental policies, particularly the FHA and VA programs, have exerted a substantial influence on the allocation of savings.

Aside from the factors affecting the aggregate supply of mortgage funds, there are factors that cause regional variations in the availability of funds. For example, there is considerable variation among states in the laws governing the activities of institutional lenders. Insurance companies are subject to various limitations on the percent of appraised value (or sales price) subject to mortgage, and on the dollar amount of maximum loan. Mortgage laws governing commercial banks vary among states since federal statutes apply to the national banks and state laws govern the policies of the state-chartered banks. Regulations and decisions of supervisory agencies, such as the Federal Reserve System, the VA, and the FHA, are also important and in some cases may vary somewhat from region to region. Savings and loan associations operate either with a federal charter or with a state charter, but federal rules and regulations are the primary authority for maximum loan policy, and, at least as far as maximums are concerned, there is consistency among states. Policies of the institutional lenders also may vary from one area to another because of varying social and economic conditions.

In view of the complexity of the mortgage lending market it is not possible to make a preliminary judgment concerning the availability of mortgage funds for shelter purposes. It would be desirable, however, once estimates of capital requirements of a nationwide shelter program have been more carefully refined, to undertake a study designed to ascertain the availability of mortgage funds under various assumptions with respect to governmental policy.

#### Appraisal of Real Property

Since the underlying security for any mortgage loan is the real estate which the borrower pledges to the lender through a mortgage, careful appraisals are typically made of the property. The purpose of such appraisals is to determine whether or not the value of the property that is supporting the contemplated loan is sufficient to warrant the loan. National banking laws, state banking laws, and laws and regulations covering the lending operations of the various institutional lenders all require appraisals. VA and the FHA regulations also require an appraisal of the real estate. The percentage of the loan to the appraised value of the property is established by law in the case of almost every institutional lender, as was pointed out above.

Three basic approaches are used most frequently in the valuation process--the cost approach, the comparison or market data approach, and the income capitalization approach. The cost approach involves determining the cost of replacement, adding land value, and deducting depreciation. The methods used in estimating the cost of replacement, however, vary widely in different parts of the country.

The comparison or market data approach involves comparing sales prices, listing prices, and offering prices of similar properties. Although it is not always possible to find identical buildings in the same neighborhood, it is possible to arrive at comparable values.

The capitalization method is used most frequently in appraising income properties and is seldom used in appraising a home. In general, the procedure involves estimating probable effective gross income, probable expenses of operation including taxes and an allowance for

management, and net earnings before depreciation. The final step involves conversion of expected net earnings before depreciation to an estimate of the value of the property, using an appropriate capitalization rate. The capitalization rate typically includes a depreciation factor and an investment return factor. An allowance is also made, in the case of income producing properties, for vacancy and loss of rents.

After the various applicable appraisal approaches have been used in a given case, the judgment and experience of the appraiser enter into a determination of final value. Since appraisal techniques cannot be regarded as an exact science, differences of 5 to 10 percent between valuation estimates of any two able and qualified appraisers are not regarded as a serious reflection on ability or qualification of either. It is important to consider the manner in which appraisals are made and the importance of the appraiser himself in evaluating the effect of appraisal techniques upon the financing of shelter construction, either by individuals or by other elements of the private sector.

#### Individual Provision of Shelter Capability

##### Current Practice

Under financing provisions currently applicable to single family residential dwellings, the cost impact attributable to the provision of shelter space would vary according to the price of the house, the type of loan employed, and appraisal practices. This cost impact would be felt in the down payment, in the monthly payments required to amortize the loan, and in tax and insurance payments. Frequently, the latter are combined in the monthly payment.

Table 1 provides an illustration of the effect of different loan arrangements and appraisal policies upon the down payment requirement for a house costing \$19,000 without a shelter and \$20,000 with a shelter. Closing costs are not included because they vary according to local lending customs as well as by financing arrangement. They may, however, be a significant portion of total down payment in some areas.

The relative cost impact is substantially larger for the FHA loan than for conventional loans, at the price used in the example, whether or not the shelter is included in the appraisal. If the shelter cost is not included in the appraisal, the relative impact declines as down payment increases.

The effect of differential down payment to appraised value ratios characteristic of FHA loans is illustrated in Table 2 and Figure 1.\* Because of these differential ratios, the percentage increase in size of down payment fluctuates somewhat with the price of the home, if the shelter cost is included in the appraisal. If it is not included in the appraisal, the relative impact is highest at the low end of the price range and declines as the price of the house increases. In other words, unless recognition is given to the shelter in the appraisal, the relative "burden" of shelter provision is highest in the price ranges where size of down payment is likely to be critical.

According to an FHA appraiser, there has been insufficient experience with the problem of determining the value, for purposes of appraisal, of shelter capability in residential single or multi-family housing. In the absence of information relating to sales of property with and without shelters, the appraiser must make a subjective judgment concerning the value that an average, well-informed purchaser would place upon a shelter. Although the FHA regards shelter provision with favor, appraisers must, in practice, give primary weight to market factors.

This was also the opinion of a private appraiser affiliated with the American Institute of Real Estate Appraisers. Apparently, the latter organization has not published any material dealing with the problem of appraising shelters in private homes. Since the short period of public interest several years ago, there has been little

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\* Under current law, minimum FHA down payment requirements for a single family dwelling are 3% on the first \$15,000; 10% on the next \$5,000; and 20% on the balance up to a maximum of \$30,000.

Table 1

DOWN PAYMENTS\* FOR A HOME APPRAISED AT \$19,000  
WITHOUT A SHELTER AND \$20,000 WITH A SHELTER  
ACCORDING TO TYPE OF LOAN AND APPRAISAL POLICY

Type of Loan	Without Shelter	Shelter Included in Appraisal		Shelter Not Included in Appraisal	
		Amount	% Increase	Amount	% Increase
GI	\$ 400	\$ 500	20.0	\$1,400	125.0
FHA	850	950	11.8	1,850	117.6
Conventional					
10% down	1,900	2,000	5.3	2,900	52.6
25% down	4,750	5,000	5.3	5,750	25.1
33-1/3% down	6,333	6,666	5.3	7,333	15.8

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\* Excluding closing costs.



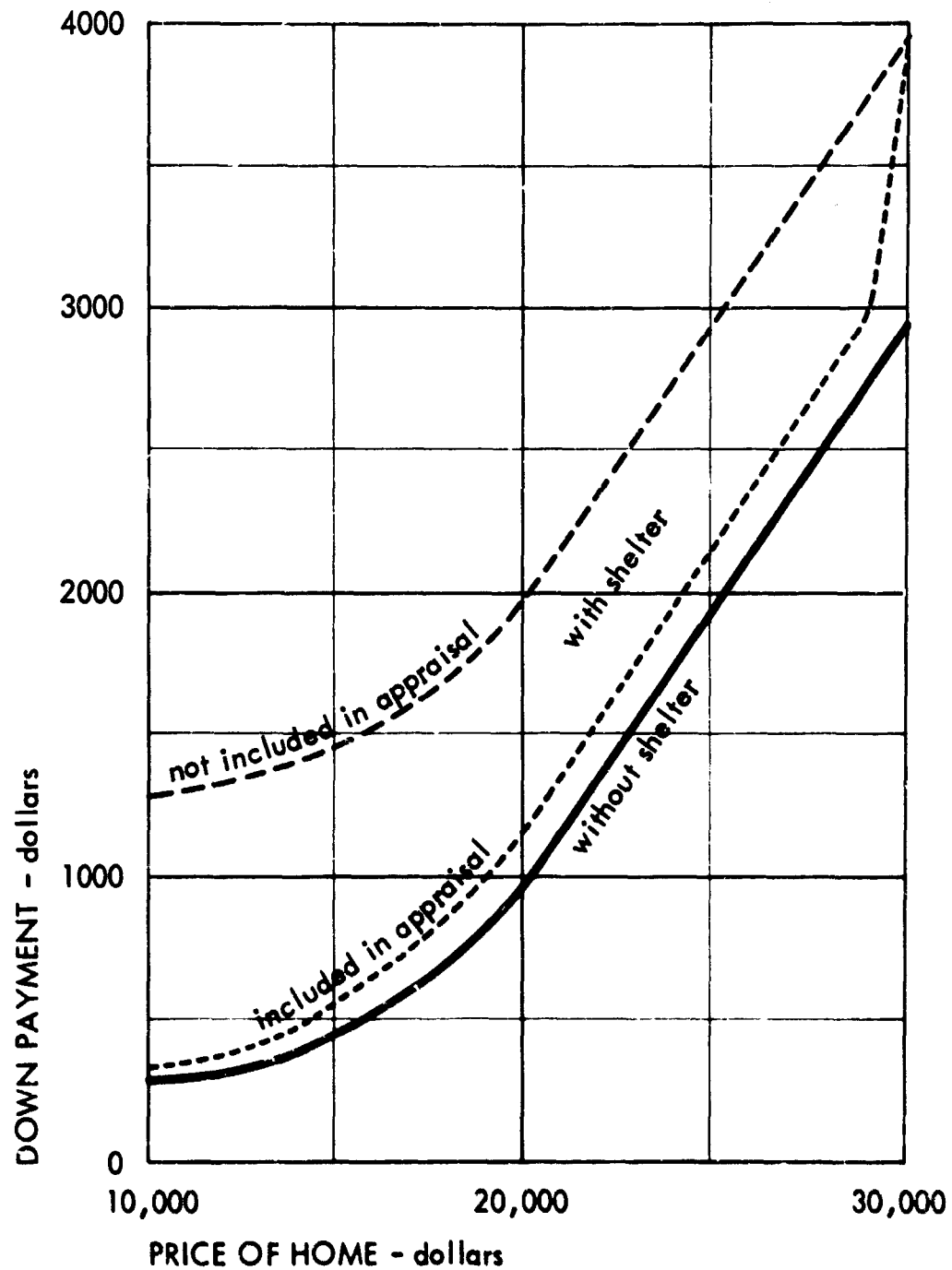
Table 2

COST IMPACT OF INCLUDING A \$1,000 SHELTER IN A HOME  
FINANCED WITH AN FHA LOAN, ON DOWN PAYMENT RE-  
QUIREMENTS (EXCLUDING CLOSING COSTS)

Appraised Value of Home Without Shelter	Down Payment Required				
	Without Shelter	Shelter Included in Appraisal		Shelter Not Included in Appraisal	
		Amount	% Increase	Amount	% Increase
\$10,000	\$ 300	\$ 330	10.0	\$1,300	333.3
12,500	375	450	20.0	1,375	266.7
15,000	450	550	22.2	1,450	222.2
17,500	700	800	14.3	1,700	142.9
20,000	950	1,150	21.1	1,950	105.3
22,500	1,450	1,650	13.8	2,450	69.0
25,000	1,950	2,150	10.3	2,950	51.3
27,500	2,450	2,650	8.2	3,450	40.8
30,000	2,950	3,950	33.9	3,950	33.9

Figure 1

COST IMPACT OF INCLUDING A \$1000 SHELTER  
IN A HOME FINANCED WITH AN FHA LOAN  
ON DOWN PAYMENT REQUIREMENTS  
(Excluding Closing Costs)



demand for this type of shelter. This statement was also supported by a representative of a large commercial bank.

Current practice, therefore, given apparent typical attitudes concerning shelter provision, requires the individual purchasing a new home to pay for the shelter or for a substantial part of its cost as a part of the down payment. This increases either direct cash outlay or the use of high cost loan funds (if 2nd or 3rd mortgages are required). The size of the down payment is a critical factor to most potential home buyers, not only because of the initial cash outlay required, but also because of its effect on ease of resale. Many of the prospective purchasers of homes are young couples facing numerous demands on limited incomes. Furthermore, the mobility of the population has increased substantially since World War II, increasing the rate at which homes are resold, and there has been a growing tendency for homeowners to avoid large equities in their homes. Any cost operating to increase equity, particularly one attributable to a feature for which there appears to be little demand, will result in increased buyer resistance.

With respect to the construction of shelters on existing properties, the Housing Act of 1961 authorized FHA to insure loans in amounts up to \$10,000 per unit, payable over terms of up to 20 years, to finance major improvements, including shelters.\* Limitations in the law with respect to age of structure and minimum loan do not apply if the loan is for the purpose of constructing a shelter. However, the general limitation that the loan, when added to any outstanding debt related to the property, may not exceed the amount of the first mortgage FHA could insure on the property, does apply. Interest is limited by law to 6 percent but there is a \$20 application fee and an annual insurance premium of 1/2 percent. To date, there appears to have been little response to this financing arrangement for construction of shelters. The IBM company went one step further by providing interest-free loans for construction of shelters but the program has been utilized by less than 2 percent of their employees.\*\*

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\* Section 203K of the Housing Act.

\*\* Hearings before Subcommittee No. 3, Committee on Armed Services, Civil Defense--Fallout Shelter Program, 87 Cong., 1st Sess., Part II (Vol 2) p. 4945.

In view of the extent of individual resistance to the provision of shelter space--some of which may be due to apathy and some to the genuine belief that community provision, however financed, would be more effective--means must be found to encourage individuals to take an active part in the program if careful analysis of shelter requirements indicates that this is desirable or necessary. The approach would have to be twofold--(1) dissemination of accurate up-to-date information on the need for individual provision of shelter space and on the physical characteristics of suitable space in specific areas, and (2) development of incentives that would effectively lessen the financial burden on individuals.

### Basic Problems

Before considering alternative incentives, it is necessary to be convinced that individual efforts would, in fact, be desirable or necessary. If it has not already been done, detailed analyses should be undertaken of the relative merits of individual shelter provisions and community shelter provisions. There seems to be little likelihood of a successful individual program, even with incentives, unless those responsible for CD, both locally and nationally, are convinced that such a program could be effective. It is certainly a weak argument to present to homeowners that, although a community program is more effective, individual efforts are necessary because there is insufficient public support for a more adequate program. IBM's attempt to encourage employees to construct shelters, by offering interest-free funds and supplies for stocking priced at bulk cost, was relatively unsuccessful even though it was accompanied by considerable literature. This suggests that general community attitudes are important to decisions of this type and that informational programs based upon clear national conviction and with greater coverage than could be obtained by private companies would be required.

Although the major cost to the individual of providing shelter capability is the cost of construction, there will also be expenses associated with stocking and maintenance. As noted above, the IBM program included arrangements for minimum cost stocking as an additional

inducement with little success. But maintenance represents an increase in monthly expenditures and will be considered, along with any other increases in payments attributable to the higher cost of the home, by prospective home buyers.

#### Incentive Programs

One method of increasing the rate of shelter construction--direct subsidy--that is in use in Germany (in September 1965) requires the construction of shelters as a part of all new housing. Given the American political environment, in particular, the importance placed upon state and local functions both by tradition and by law, this does not appear to be a practical solution for the United States.

Some mandatory provisions could be legislated into the FHA and VA programs, however. Construction of a shelter could be made a condition of receiving an FHA-insured or VA-guaranteed loan. The immediate cost impact on the individual could be reduced by providing, at the same time, for 100% financing and for a lengthened mortgage period or for an interest-free loan with the federal government reimbursing lenders for the interest payments.

The administrative complexities of the latter proposal and the changes that necessarily would be required in current institutional arrangements would make such a provision less desirable than some other forms of direct or indirect subsidy. There are also numerous problems associated with the former suggestion. A guarantee of 100% financing of shelter cost would conflict with current appraisal techniques and provision would have to be made for their revision or for a limitation of the appraisal to the value without the shelter. In addition, some potential buyers would be excluded unless adjustments were made in procedures for evaluating borrowers' ability to pay.

The extent to which FHA and VA financing is utilized varies regionally and differential impacts could be expected of any mandatory provisions tied to these programs. Considerable shifting to conventional loans may occur in regions where this type of financing is reasonably competitive with FHA financing. In other regions there may be a tendency to discourage home ownership and reaction from builders can be

expected. Builders of tract housing will also suffer a reduction in flexibility since they typically offer buyers a choice of VA, FHA, or conventional financing. If the mandatory provision were limited to new housing, the effect would be to encourage the purchase and refinancing of older homes rather than the purchase of new housing.

One incentive that might stimulate individuals to provide shelters would involve an amendment to the Internal Revenue Code to permit the cost of a shelter to be depreciated over a specified period and listed as a deduction on the personal income tax form. This provision would benefit individuals who itemize but the relative impact would vary according to the marginal tax rate of the individual. The benefit could be extended to all homeowners, however, by allowing the depreciation amount to be deducted from gross income before computation of tax liability. In effect, the federal government would be partially subsidizing the program but would not be required to make a heavy initial capital outlay--no capital outlay would show on the books since the subsidy takes the form of reduced tax revenue.

The degree of incentive, under this approach, varies substantially with income level. The following table shows the extent to which the cost of a \$1,000 shelter is recovered by individuals with different levels of taxable income.

Marginal Tax Rate	Tax Savings			
	Deductible in Year of Construction	Deductible over 10 years		
		Annual	P.V. @ .06	Percent of Cost
20%	\$200	\$20	\$157	15.7
30%	300	30	221	22.1
50%	500	50	369	36.9
90%	900	90	662	66.2

As the table indicates, tax savings increase as taxable income (marginal tax rate) increases, a result that would be generally regarded as inequitable and would tend to limit shelter construction to higher income groups.

These figures are illustrative and are limited to consideration of the capital cost of the shelter. If the shelter were financed, the homeowner would incur interest charges that would also be deductible by persons itemizing deductions on their returns. Under typical loan arrangements, the deductible interest charge would decline annually over the period of repayment--which may or may not be the same as the depreciation period. If the shelter cost were met from available funds, the individual would incur a non-deductible opportunity cost which tends to increase as income level increases, depending upon the sources of the income and the marginal tax rate.

One way of avoiding this differential treatment would be to allow the deduction to continue until the net cost to the taxpayer was zero regardless of income. This approach would be relatively complicated since it would require determination by the taxpayer of his tax savings each year and the maintenance of a cumulative record until the full cost had been recovered. The administrative problems associated with this method would probably render it invalid.

Another way to avoid this problem would be to allow shelter construction cost as a tax credit, with appropriate carry-forward provisions. It might be desirable from the point of view of the federal government to provide for spreading of the cost over a fairly lengthy period, much like the depreciation approach. This method provides for equal dollar treatment among taxpayers and for greater relative impacts on low than upon high incomes.

A number of basic problems arise in connection with each of the incentive alternatives discussed above. Maximum expenditure guidelines for tax purposes would have to be developed that would reflect regional variations in construction techniques and differences in shelter requirements among areas with respect to both protection requirements and availability of alternative shelter space. Unless such guide-

lines were developed, policing of tax deductions would be extremely difficult, particularly since the incentive program could easily be employed to develop dual purpose space.

But the imposition of price guidelines raises another problem. Taxpayers in areas where shelter construction cost is relatively low would be at least partially subsidizing taxpayers in high cost areas. For example, homeowners with basements have already paid some of the cost of shelter construction, whereas those without basements or with rock or water table problems would have a much higher deductible expense. Of course, the general policy of allowing tax credits or deductions results in a shift of the burden from individuals to the tax-paying public at large and in a different over-all incidence.

Another major difficulty associated with these incentive programs is the problem that arises when the property is sold--should the incentive remain with the property or should the person selling the property continue to deduct the amount derived from the original computation? In theory, the incentive should be attached to the dwelling if the sales price was sufficient to recover the cost of the shelter originally provided. However, it would be difficult in any given case to determine precisely the extent to which the shelter cost was recovered. In the event of partial recovery it would be difficult, administratively, to arrange for a sharing of the incentive by the purchaser and the seller. Since rapid turnover of residential properties is a characteristic of the American scene, this problem would have to be researched extensively if an equitable arrangement is to be developed.

As was pointed out above, the success of a program involving incentives to encourage individuals to construct shelters will depend not only upon resolution of the administrative problems inherent in the program but on the development of public enthusiasm for protection. There will be some costs associated with even a liberal tax credit program, if only in the form of time and effort required to arrange for construction of a shelter\* and to acquire the necessary training to make

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\* Considerable time and effort may be required because of restrictions contained in local zoning ordinances or building codes. This problem will vary substantially from area to area.



effective use of the shelter. Stocking and maintenance costs will also be incurred. As an offset to these costs, provision could be made for extension of tax credits or deductions beyond the point of full recovery of cost or for an allowance for maintenance costs as an income tax deduction. Incentives of this type, however, would be difficult to administer and police and would further complicate the income tax process which many regard as too complex in its present form.

In view of problems inherent in any program to encourage individuals to channel their expenditures into specific areas and the expenditures that would be required to attain a significant degree of compliance nationally, it would be desirable for some research effort to be devoted to the analysis of the differences in cost and effectiveness characteristics between individual and community shelter programs before incentive programs for individuals are seriously considered. If the federal government (the general tax base) is going to have to bear the burden in any event, the most economical approach consistent with efficiency should be employed.

Another aspect of an incentive program for individuals that should be considered is the tax treatment of property that has been "improved" as a result of shelter construction. The assessment function is typically handled by local units of government but in many states there is overlapping assessment between counties and cities. In addition, special districts may also have statutory authority to prepare their own assessment rolls and collect their own taxes. A state board or agency is usually responsible for equalization of assessments but statutory powers vary from state to state.

If a program of incentives designed to encourage individuals to provide shelters is instituted, it would be desirable to supplement it with measures to assure non-taxability as a property improvement. Current tax practices in California, according to the State Board of Equalization, appear to include shelter cost in the property assessment unless there are resale data to indicate that full cost is not being recovered. The State Constitution directs that "all property subject to taxation shall be assessed at its full cash value." Over

time, market value has been established as a basic guide in estimating "full cash value" but, in the absence of resale data, cost may become the principal determinant. According to a well-known California architect, the best way to get a reassessment is to take out a building permit, no matter how small. There is considerable variation within the state in the way in which local assessors treat property improvements, however. Given the legal rigidities, a constitutional amendment would be required in order to ensure that shelter construction cost would be excluded from property assessment. Such a provision would also be required in other states where assessment procedure is specified in the Constitution; legislative action would be required in states with no constitutional restrictions.

Even if appropriate action were taken to exclude shelters from assessed value, there would be a reluctance on the part of some homeowners to construct a shelter. In areas of rapidly rising property values where reassessment of older properties has lagged, homeowners would avoid applying for building permits. Assessment problems could also arise with respect to sale of new homes or resale of older homes, if shelters are a part of the property. In the event that shelter construction became more widespread, price differentials attributable to the existence of shelter space might develop and procedures for determining the amount of exclusion to allow would have to be established.

#### Provision of Shelter Capability by Residential Developers

##### Current Practice

A variation of the concept of individual provision of shelters is the encouragement of developers of residential tracts to build dual-purpose community center-shelter facilities. According to representatives of a major commercial bank, the policy of lenders is not to finance such a development in isolation. Typically, a developer providing a community center development will add the cost to the prices of the homes in the tract. In appraising an individual home for loan purposes, the appraiser would give some consideration to the increase

in value attributable to the development but, given current attitudes, would probably not attach much weight to shelter capability. As in the case of individual provision, community attitudes are critical.

It is likely that a developer would have some difficulty adding the full cost of an adequate shelter to the prices of the houses in the tract, particularly in areas where competition is strong, since the size of the down payment and monthly payment constitute an important factor in sales. His price flexibility would also vary according to fluctuations in the demand for housing. This implies the need for some incentive provisions.

#### Basic Problems

Before considering the alternatives with respect to incentives, some additional problems associated with this type of shelter program should be mentioned. Although methods for operating a community facility associated with a tract vary, the most common approach is to turn over the facility to a properly-constituted community group which then assumes responsibility for operation and maintenance for the benefit of the homeowners in the tract. Certain legal and organizational problems associated with efforts by groups of individuals would have to be resolved before reasonable success on a broad scale can be anticipated. The legal problems relate to exclusion of non-participants and to public liability and the organizational problems to ensuring continuous maintenance and availability of properly trained individuals.

A private group has the legal right to exclude non-members of the group although the practical problems associated with such exclusion, in the absence of adequate shelter in the community as a whole, are intolerable to most persons. If federal assistance were solicited to stock the shelter, it would have to be marked as a public shelter and exclusion by reason of residence would not be permitted. Presumably the responsibility for management and space allocation would then be undertaken by the local authorities rather than by the local group. If the shelter were retained as a privately operated group facility, the expenses of stocking and maintenance and the responsibility for training and administration would have to be met by the group. It is

likely, therefore, that if incentives to encourage residential developers to provide shelter space designed for specific tracts are successful, the property owners involved would not attempt to operate the shelter as a private facility because of the expense and the continuing problem of maintaining sufficient interest to ensure long run effectiveness unless a substantial portion of the shelter cost were included in the price.

Public liability of owners of buildings with public shelter capacity is adequately protected by California law (Section 1714.5 of the Civil Code).<sup>\*</sup> The problem of liability could probably also be handled adequately by a private group, although legal counsel would be required.

The organizational problem could be resolved through cooperation with local civil defense personnel. However, members of the group would need training for the various key jobs associated with the operation of a shelter in a time of emergency. This would require the expenditure of time and, in all likelihood, funds. Again, considerable public acceptance would need to be generated.

#### Incentive Programs

As in the case of individuals, consideration could be given to a mandatory requirement that shelter space, either on a single home basis or as an integral part of a general tract facility, be constructed by developers. As suggested above, a national requirement of this nature is unlikely. However, mandatory provisions could be legislated into the VA and FHA programs. Some of the problems associated with such legislation were discussed in the preceding section.

A number of incentives could be employed to encourage developers to provide shelter capability in connection with the construction of residential tracts. These could be applied directly to the developer or indirectly in the form of concessions to purchasers such as were described in the preceding section. If the latter method were

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<sup>\*</sup> Such laws have been enacted in all but 12 states.

applied, the effect would be to offset, at least to some extent, any price increases attributable to shelter provision. In order to obtain tax credits or deductions, each home buyer would have to obtain from the developer a statement of the share of total shelter cost allocated to his property. Where joint use is contemplated, as in the case of a community center-shelter development, ground rules relating to maximum cost and cost allocation would have to be developed by the Internal Revenue Service and machinery for adequate policing would have to be established.

Direct incentives to the developer could range from complete subsidy of the cost of shelter construction to tax adjustments designed to offset reduced profits resulting from higher cost over-all construction. Determination of the extent of reduced profits would be exceedingly difficult, if not impossible. The extent to which sales prices were insufficient to cover shelter cost and provide a "reasonable" profit or the extent to which houses moved more slowly than "normal" because of the shelter feature would have to be documented in a manner satisfactory to the Internal Revenue Service. In addition, ground rules would be needed to define the extent to which private developers could exploit federally-subsidized shelters to promote sales. In the absence of a detailed evaluation of this problem, it would appear that an incentive program applied to individuals would be more manageable than one applied to developers of residential properties.

Another type of incentive that has been suggested is legislative provision for lower interest rates, presumably implemented by FHA, for builders complying with given shelter criteria.\* Such a downward adjustment of interest rates would provide a competitive advantage to builders employing FHA assistance relative to users of other forms of mortgage financing. Traditionally, changes in interest rates have been made in response to general monetary conditions and the rate itself has not been employed to encourage specified types of compliance. Performance

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\* Suggested by Robert L. Corsbie, National Institute for Disaster Mobilization, Hearings on Civil Defense--Fallout Shelter Program, 1963.

according to specific standards has been made a condition of FHA participation. In view of the inter-relationships among segments of the mortgage market, the critical nature of interest rates, and competition among builders and among institutional lenders, an incentive involving the interest rate on FHA insured loans should not be seriously considered without extensive study.

Several approaches to home ownership that would be more amenable to group provision of shelter capability than the traditional approaches have shown increasing popularity in recent years. Two of these--cooperative housing and condominiums--have developed in the area of multi-family housing. Another--housing on leased land--is also applicable to tract-type developments.

A member of a cooperative project acquires ownership to his housing unit by buying shares in a corporation that owns and operates the building or buildings. In the case of a condominium, the individual purchases his housing unit outright (and receives a recordable deed) and owns jointly with the other owners any common land and facilities. In both cases, maintenance expenses are shared by the members or homeowners.

In the case of housing on leased land, a corporation (for possibly a condominium or cooperative group) would develop a relatively large area, would own and manage the land comprising the front yards, access ways, common recreational areas, shopping centers, etc., and would issue renewable leases on lots on which houses are located. Homeowners would own their homes and lease the lots.

The advantage of these types of home ownership is the existence of a management group responsible for over-all planning and maintenance functions. Such a group could assume responsibility for a community shelter and levy the necessary maintenance charges along with other charges incident to the development. Tax incentives could still be provided individual homeowners on the basis of cost allocations determined by the responsible group.

Currently, arrangements of this type account for a relatively small proportion of the total home inventory. However, the popularity of cooperatives and condominiums has been increasing and although

housing on leased land is still in the embryonic stage, there are a number of social and economic trends tending to encourage its development. It would be desirable to explore the characteristics of each of these approaches to housing in greater depth to ascertain their adaptability to civil defense needs, the legal and administrative problems requiring solution, and the types of incentive most likely to be effective.

### Provision of Shelter Capability in Private Buildings

#### Current Practice

In evaluating the potential contribution to shelter capability of privately-owned buildings, separate analyses should be made of rented or leased facilities and owner-occupied buildings. There are frequently differences in financing arrangements and there may also be differences in importance placed upon preservation of records and maintenance of continuity of management.

With respect to industrial or commercial buildings constructed for lease or rental, financing is typically based on an appraisal determined with respect to expected future income. The provision of shelter space, to the extent that it adds to capital cost, will reduce future income unless lessees can be presumed to be interested in availability of shelter space or unless the space can be employed for other necessary purposes. The following examples illustrate the effect of variations in financing on percentage return on equity, assuming a 4 percent increase in capital cost attributable to the provision of shelter space.

	Without Shelter	With Shelter	
		Excluded from Mortgage	Included in Mortgage
Cost	\$100,000	\$104,000	\$104,000
Mortgage	90,000	90,000	93,600
Equity	10,000	14,000	10,400
Net Return	1,500	1,500	1,500
% Return on Equity	15.0%	10.7%	14.4%

These examples illustrate the impact of an increase in equity requirements on percentage return on equity, assuming the same dollar return in each case. In practice, this assumption is not valid since an increase in the size of the mortgage will result in increased mortgage cost and an increase in the cost of the building will result in increased insurance expense and, in all likelihood, taxes. On the other hand, prospective tenants may be willing to pay higher rents, reflecting value placed upon the availability of shelter, or the space may serve some dual purpose function that would enhance the value of the building. It is interesting to note, however, that an increase in net income of \$600, or 40 percent, would be required to preserve a 15 percent return on equity if shelter cost is excluded from the mortgage.

According to local appraisers, there has been insufficient experience to permit positive statements to be made concerning the treatment of shelter space. It would appear, however, that unless effective dual-purpose capacity is provided such that higher rentals could be charged and net income increased, there is little likelihood that the increased cost would be included in the mortgage. Even if maximum dual purpose capability were developed, there would be some non-productive space required for storage and some increase in construction, equipment, and maintenance expenditures over and above those required in the absence of a shelter. The cost impact of these factors emphasizes



the importance of continued efforts to devise acceptable dual-purpose designs for all types of income-producing structures.

With respect to owner-occupied buildings, the problem is more complicated in that financing can be done by means of mortgage, issue of stocks, sale of bonds, or use of undistributed earnings. There may also be differences in the emphasis placed upon preservation of records and continuity of management although this is by no means clear-cut since many large, established firms employ leased facilities.

There has been considerable CD activity on the part of larger firms, some of it of long duration. This activity has developed because of management's concern for preservation of records, continuity of management, and resumption of operations after an attack. Provision of shelter space has proceeded less rapidly than other aspects of the program but steps have been taken by a number of companies beginning with inventorying of existing capacity and including, in some cases, provision of appropriate space in new plants or buildings or upgrading of existing capability.

The factors influencing corporate decisions to undertake shelter construction, where these have been made, have not been well documented. Some company representatives testifying before Subcommittee No. 3 of the House Armed Services Committee cited, in addition to the factors listed above, the management responsibility for protection of their employees. But cost is a critical consideration. The decision with respect to the amount of a wise or reasonable expenditure, on which, hopefully, no return will be received, is a difficult one, particularly when employees may express more concern for improved fringe benefits than for protection.

Some companies regard expenditures for civil defense as a form of insurance although there is no pooling of risks in the usual insurance sense. However, from the point of view of industry generally, the effective return from such expenditures in the event of attack is potentially much higher if there is a widespread program of protection than if efforts are confined to a few companies. Stimulation of activity by industry in this area would require positive action by the federal

government at least with respect to federal facilities, a broadly disseminated, accurate educational program, leadership in the business community, and at least a minimum program of federal direct or indirect assistance.

#### Incentive Programs

As in the case of individuals and residential developers, consideration could be given to some type of mandatory provision, at least with respect to new construction. Although the likelihood of a nationwide provision of this type is remote, the federal government can exert its influence in certain areas. For example, FHA insurance on projects involving multi-family dwelling units could be made conditional on the inclusion of adequate shelter space. In another area of influence, government contractors could be required by contracting agencies to supply information on their survival programs, if any, or such programs could be explicitly recognized in the consideration of contract awards.

Employment of a mandatory FHA provision would tend to reduce return on equity since, under current market conditions, little value is attributed to shelter capability by appraisers. However, since FHA terms are relatively favorable and since multi-family projects are more adaptable to the inclusion of shelter at minimum cost than single family units, it is possible that a provision of this type would exert some influence. The effect would not be uniform among states because of variations in program (FHA) activity. Another problem that would have to be evaluated is the impact of cost increases attributable to shelter construction on those programs designed to meet a special need such as public housing, redevelopment housing, and housing for the elderly. Specifically, the possibility that such a provision might tend to discourage program objectives should be thoroughly explored.

Any procedure to apply pressure on government contractors would be regarded by many as a form of blackmail. Explicit recognition of survival preparation would also tend to further complicate the already complicated procedure for awarding contracts. Those suggesting

questionnaires to defense contractors concerning their survival programs (without any specific penalties for inadequate programs) feel that this approach would lead to greater activity by these companies which would spread to other industries as well.

Under existing law, expenditures for shelter construction as a part of a new building are allowable deductions and accelerated depreciation at twice the straight line rate is available. The same treatment is applied to expenditures for converting space in existing buildings to shelter use. But this is the treatment applied to any new construction and offers no particular incentive.

One provision that might encourage the expansion of shelter space in new or existing buildings would be the exemption of such space from assessed valuation. As was pointed out in an earlier section, amendments to the state constitution or legislative action at state level would be required. Even if the appropriate actions were taken, however, some problems of implementation would arise, perhaps the most difficult of which would be determination of the extent of exemption in cases of dual-purpose use of space. If the exemption were applied regardless of dual-purpose capability, some encouragement would be given to the design of such capability but it is also likely that there would be reaction within the industry because of non-uniform treatment. In any event, assessment techniques would have to be modified, particularly those employing a square footage approach, a technique commonly applied to commercial properties.

One method of preserving the leverage obtained by a developer is to assure 100 percent financing of any incremental cost incurred as a result of providing shelter capacity. An arrangement of this type could be handled by FHA with respect to multi-family structures typically insured by FHA if appropriate amendments were made in the enabling legislation. There would be some administrative problems associated with the determination of incremental cost; policy changes in appraisal procedures would also have to be made. The figures relating to the hypothetical building discussed above are:

Cost	\$104,000
Mortgage	94,000
Equity	10,000
Net Return	1,500
% Return on Equity	15%

As pointed out in connection with the previous examples, net return would remain the same only if increased mortgage, tax, and insurance costs were offset by increased income because of availability of shelter space or development of productive dual-purpose capability. However, it is obvious that guarantee of 100 percent financing would present the most favorable situation to the developer. Again, this approach merely operates to preserve return on equity and provides no particular incentive to the builder unless there is, in fact, a net gain from dual-purpose space or from tenant response to shelter availability.

One incentive that has been suggested is a provision for slightly reduced interest rates for builders using federal funds or FHA assistance who comply with given protective shelter criteria.\* The program referred to with respect to use of federal funds by builders was urban renewal. The possible use of this program to encourage the development of shelter capacity is discussed under "Federal Aid in the Provision of Shelter Capability," but in passing, it might be noted that federal funds are not available to developers for construction purposes. Since developers participating in the program arrange their own financing, the use of this type of incentive would appear to be limited. The problems associated with interest rate adjustments were discussed in the preceding section.

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\* Suggested by Robert L. Corsbie, NIDM, Hearings on Civil Defense--Fallout Shelter Program, 1963.

#### IV PROVISION OF SHELTER CAPABILITY BY LOCAL GOVERNMENTS

##### Characteristics of Local Government

There are wide variations in the characteristics of local government within the United States. In large areas of some states, small cities surrounded by rural areas dominate the municipal scene. In other states small adjoining municipalities blanket large areas frequently including some rural territory. Counties have been traditionally of minor importance in some northeastern states and have been dissolved in Connecticut and Rhode Island. On the other hand, these units of government are most significant in rural areas in the southern, central, and western regions of the country. Local governments of all types have been created by constitutions and statutes of various states. The Advisory Commission on Intergovernmental Relations describes local government as fractionated and confusing and restricted territorily, financially, in structure and personnel, and sometimes directly in the functions authorized.\*

In California for example, the 1962 Census of Governments shows 373 cities, 57 counties, 1 city-county, 1630 school districts, and about 2,000 special districts. This hodge-podge of governmental units characterizes particularly the metropolitan areas in California. The Los Angeles-Long Beach metropolitan area is served by more than 300 local authorities, and the San Francisco-Oakland metropolitan area by over 400; even Santa Barbara, the smallest of the metropolitan areas, is served by 69 separate units of government. A similar situation exists in other states. For example, in Pennsylvania there are 2558 municipalities and townships with varying degrees of municipal power,

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\* Advisory Commission on Intergovernmental Relations, State Constitutional and Statutory Restrictions upon the Structural, Functional, and Personnel Powers of Local Government. A Commission Report, October, 1962.

in general regulated to some extent by the state legislature. In addition to these, there are more than 1500 municipal authorities which have been established to perform special functions, largely because Pennsylvania municipalities have reached their general obligation bond debt limits.

It should be pointed out that Census of Governments data, in all probability, represent an underestimate of the number of governing agencies because of definitional restrictions. Under Census definitions, a unit of government must have fiscal autonomy, an independent governing body, and a certain degree of administrative freedom, a test that numerous special districts--regarded as governments by many--often fail to meet. For instance the Los Angeles metropolitan area, according to some authorities, contains at least 1000 governments, and San Diego at least 150, substantially larger numbers than are shown by the Census. This qualification probably applies also in other states.

In view of the variety of governmental units and the interstate variations in types and numbers of units, it is difficult to generalize concerning the role local governments could or should play in developing an adequate shelter program. The discussion that follows will be concerned primarily with financing alternatives open to local units of government, with emphasis upon the California situation. Application of these alternatives to other state situations will also be discussed where information is readily available.

#### Sources of Local Government Funds

The major sources of funds available to local governments are taxes, general obligation bonds, and other forms of debt financing. A variety of restrictions has been placed upon these sources of revenue by state constitutional or statutory provisions. Each of these sources will be discussed briefly with particular reference to California but some information for other states will be included to indicate the various problems to be faced in designing a nationwide shelter program financed from local resources.

### Property Tax

The property tax is the major local revenue source, providing, on a national basis, 7 out of 8 tax dollars collected by local governments. However, this source of revenue is subject to constitutional or statutory restrictions or both, in most states; the few states without either type of restriction are concentrated in New England. In general, the restrictions take the form of a maximum limitation on the allowable tax rate related to the assessed value of taxable property. However, statewide equalized value is occasionally specified, as in New York and Illinois. Examples have also been found of limitations on the maximum dollar amount of the local government tax levy (for example, Minnesota) and on the increase in tax levies from one year to the next (Arizona, Colorado, and Oregon).

In the case of California, cities are limited to \$1.00 per \$100 of assessed valuation and school districts to a variety of rates depending upon the type of district, e.g., elementary, high school, junior college. There is no general limitation on counties, although county levies authorized for a few specified purposes are subject to rate limitation. In the case of special districts, tax levies, including maximum rates in some cases, are authorized by legislative acts. The maximum tax rates, however, may be exceeded by vote of the people in the case of both municipalities and school districts.

If municipalities are regarded as the prime movers of a shelter program, the maximum tax rate applicable in California would be \$1.00 per \$100 of assessed valuation, subject, of course, to increase by vote of the people. The availability of property tax revenue for shelter construction will depend upon the extent to which local jurisdictions have reached their property tax limits and the amount of taxable capacity remaining in jurisdictions that have not reached their limits. In the case of Livermore, for which a financing study was undertaken, about \$.10 of taxable capacity was left with respect to the property tax.\*

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\* City of Livermore, California, Community Shelter Report, published by the California Disaster Office, April, 1962.

Statistics on taxable capacity with respect to the property tax are sketchy. In a study by the Advisory Commission on Intergovernmental Relations\* it was found that many states could not estimate the number of local governments that were at their property tax limit because no central source of information existed. In 10 states, however, most or all local jurisdictions were at their legal limit; in 14 states less than 50 percent were at their limit. In many states special districts have been created for the express purpose of gaining additional taxing authority and some jurisdictions have resorted to long-term borrowing for activities that should have been financed out of current revenue.

The effective potential revenue for shelter purposes from the property tax would have to be assessed with respect to each area studied because there are a number of factors offsetting property tax limitations. These offsetting factors take the form of exclusion of certain types or classes of local government, exclusion of debt service, provision for excess levy referenda, provision of specific levies outside general limitations, legislative easing of rate limitations, and increases in local assessment levels. There is wide variation among states in methods used to relax the effects of property tax limitations but preliminary analysis suggests that for most jurisdictions, the property tax does not represent a practical source of funds for shelter construction. In California, particularly, but in other states as well, this source of local revenue has been increasingly relied upon by school districts as a source of financing and any attempt to utilize it for a major expenditure program would receive considerable opposition from educational interests.

#### Non-Property Taxes

The use of major non-property taxes by local governments is a relatively recent development. In the case of a few large cities,

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\* Advisory Commission on Intergovernmental Relations, State Constitutional and Statutory Restrictions on Local Taxing Powers. A Commission Report, October, 1962.



notably New York, New Orleans, and Philadelphia, sales or income taxes were levied to meet emergency conditions in the 1930's. Some non-property taxes were levied under specific legislative authority following World War II and still others under taxing powers implied by general constitutional or statutory authorizations. New York and Pennsylvania granted broad non-property taxing powers to their local governments in 1947. A few municipalities in Ohio adopted income taxes and, in 1950, Mississippi pioneered the local supplement to a state sales tax. California, Illinois, New Mexico, and Utah now apply this technique and have made attempts to coordinate state and local taxes in this fashion.

Generally speaking, local governments in the U.S. are limited in the variety of non-property taxes available to them (with the exception of license taxes which most municipalities have the power to levy). Three types of restriction are typical: (1) Constitutional or statutory prohibition against local imposition of particular non-property taxes; (2) denial of the inherent right of local self-government, implying that local subdivisions do not have the power to tax without express authorization; (3) limitations accompanying authorizations, in the form of maximum tax rates, restrictions to certain localities, or specifications as to tax base.

There are wide variations among states with respect to the flexibility given local political subdivisions. The most common non-property taxes levied by local governments are income taxes, general sales taxes, gasoline taxes, cigarette taxes, alcoholic beverage taxes, admissions taxes, and public utility taxes. In California, many cities have imposed sales taxes at rates of one-half to one percent, and, as of October 1, 1961, all California counties but one had adopted the Uniform Sales and Use Tax Law. This is administered by the State Board of Equalization and is designed to prevent duplication of city and county taxes. Another important source of municipal tax revenue in California is the business license tax. Under existing statutes, general law cities may impose license taxes for both regulatory and revenue purposes. Charter cities may also license for both purposes

unless the charter itself, or the federal and state constitution, limits this power. In unincorporated areas, business licensing is under the supervision of the County Board of Supervisors but county licensing is restricted, in the main, to regulatory purposes. There is considerable variation in the type of licensing employed. Most municipalities levy the business license tax on retail firms with a fixed location within the city limits. About 10 percent of the cities exclude wholesalers, and 25 percent exclude manufacturers. It is the feeling of some observers that most California municipalities have failed to utilize this source of revenue effectively.

In the case of the Livermore study, two taxes other than the property tax were referred to as possible sources of revenue for shelter construction. These were the Civil Defense Tax, a special levy authorizing up to one-half mill in excess of the general fund limit for civil defense purposes, and the municipal improvement tax, another special rate of rather broad application, limited to 5 mills. The latter, however, requires voter approval by a two-thirds majority before it can be levied. It is interesting to note that, even if the entire general fund property tax limit plus the two other taxes noted above had been devoted to shelter construction, there would have been insufficient funds, based upon estimated 1962-1963 assessed valuation, to build even one of the shelter complexes contemplated in the Livermore study.

Because of the variety of non-property tax sources employed by various local units of government, the availability of revenue from such taxes can only be determined with respect to each individual case being studied. It should be pointed out, however, that these sources of revenue are primarily designed to support the general operations of government, although authorizations for such taxes are usually not accompanied by restrictions on the use of the proceeds. Where restrictions are imposed, they relate to use of gasoline tax revenues for street and highway purposes. However, individual municipal ordinances may be quite specific as to the purposes for which such revenue can be used, and, in fact, may specifically exclude its use for other than

operating purposes. In view of the difficulties most municipalities have had in financing capital improvements and their increasing resort to debt for such purposes, it is unlikely that shelter construction can be financed from current tax revenues.

#### General Obligation Bonds

An alternative to the use of current tax revenues for the financing of shelter construction would be the issuance of general obligation (full faith and credit) bonds. Indebtedness has been an important aspect of local government finance in the United States for at least a century, but in recent years outstanding local government debt has increased substantially. Between 1948 and 1960 such debt increased from 5.8 percent to 10.2 percent of GNP and local governments now owe approximately \$50 billion of long term debt and have recently been issuing bonds at the rate of \$5 to \$6 billion per year.

As far as debt by type of government is concerned, the major shift in the recent past has been the rapid increase in school district debt and the relative decline in municipality debt. There has also been a major shift in the type of liability incurred--an increased proportion of non-guaranteed bonds as distinguished from bonds backed by full faith and credit of the issuing governments. Non-guaranteed debt, as defined by the Census Bureau, is debt payable solely from pledged specific sources, e.g., earnings from revenue-producing activities, from special assessments, or from specific non-property taxes.

This non-guaranteed debt, discussed in more detail below under "Other Forms of Debt Financing," was originally developed to finance utility-type operations of local governments, such as water supply. It was later broadened to include public housing projects and more recently has been employed to finance types of projects traditionally financed by full faith and credit borrowing, such as public schools and office buildings. Debt service is met from "rentals" derived from taxes or other general government revenue. In addition, various projects providing for debt service payments from the yield or earmarked non-property taxes or specific revenue sources have been included.

One reason for this shift in type of liability has been the extent of restrictions placed upon the amount of indebtedness that would be incurred by various local subdivisions. The major restrictive provisions applied by states to limit the borrowing and indebtedness of local governments are the following:

1. Limits on the amount of outstanding local government debt in relation to the property tax base;
2. Limits on property tax rates that can be levied for debt service requirements or for various purposes including debt service;
3. Requirements for specific referendum approval of proposed bond issues.

In the case of California, counties are limited in the total amount of their bonded indebtedness for general purposes to 5 percent of their taxable property as shown by the last equalized assessment role. This is increased however to a total of 15 percent in case bonds are floated for "water conservation, flood control, irrigation, reclamation, or drainage works."\* Cities may bond themselves for improvements up to an aggregate of 15 percent of the assessed value of all real and personal property within their boundaries. In many states no specific percentage can be identified as the "prevailing" debt limit for governments of a particular type, in view of legal provisions for classification of government units, numerous special provisions by the purpose of debt, and, in some cases, exceptional charter provisions. Among those states where limiting percentages appear to be common, a wide interstate range becomes evident--for example, for county governments, from 2 percent in Indiana to 20 percent in Minnesota; for municipalities, from 1-3/4 percent in New Hampshire to 15 percent in California and 20 percent in Minnesota; and for school districts from 2 percent

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\* California Government Code, Section 29909.

in Indiana and Kentucky to 50 percent in Minnesota.\* Although it is nearly universal for prescribed percentages to refer to the most recent assessed valuation, a number of exceptions appear such as the three-year average applicable in Massachusetts and New Jersey, and the five-year average applied in New York. A number of states have also attempted to determine the debt limit restriction with respect to "full value" although the success of such attempts has not been ascertained as yet.

The method of restricting debt-incurring power of local governments by limiting the rate of property taxes that can be imposed for servicing of the debt is used in only a few states. However, referendum requirements are specified in many states. There is a wide variation in the legal provisions relating to referendum requirements, not only among states, but in many cases within states. These differing provisions may apply to various types or sizes of local governments or to various purposes for which bonds are proposed. In California, a two-thirds majority is required for county, city, and school district bond issues. But in some states a referendum is not required; in others a simple majority will suffice; and in others a special majority, varying from 60 to 75 percent is specified. In some states, the referendum is applied only to those owning property, and, in other states, the referendum requires a favorable vote by the majority of all eligible voters in the jurisdiction involved.

As in the case of the evaluation of tax sources as a basis for shelter construction, the practical contribution that could be made by general obligation bonds can only be determined with respect to a specific situation. In the Livermore study, it was discovered that, even if all excess bond capacity were employed, there would be insufficient funds to construct the shelter complexes that were felt to be required. According to data from the State Controller, many cities in California are bonded to a greater extent than Livermore and, if costs of similar magnitude were required, would have even less flexibility than Livermore.

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\* The Minnesota limit relates to an assessed value base which is a very minor fraction of full value. An alternative equal to 7-1/2 percent of the state determined "full and true" value is provided.

Several other disadvantages that are relevant to a decision regarding the use of general obligation bonds were raised in the Livermore report. The cost of servicing general obligation bonds is imposed upon all property within the city without regard to the relative benefit that may be derived by different property owners. Similarly, since bond payments are levied at an annual tax rate computed on the assessed valuation of each parcel, gross inequities arise unless all property holdings are assessed or assigned a relatively equal assessed value based upon a consistent and valid formula. Furthermore, the use of bond financing in this case, and for many other cities in California and probably in the rest of the country, would deplete the borrowing capacity of the city and deprive it of any flexibility that might be needed in case of other urgent demands for capital.

Perhaps the most critical characteristic of general obligation bond financing is the fact that a favorable vote is required in most states. This emphasizes the point raised earlier that considerable public acceptance of a shelter program is required before thought can be given to matters of financing, particularly when such a program will tax the borrowing capacity of many local subdivisions.

#### Other Forms of Debt Financing

The limitations on borrowing capacity outlined above have been avoided or minimized in many cases by special legal doctrines and governmental devices. Perhaps the oldest of these is the special fund doctrine which permits a municipality to acquire a capital asset, such as a water works system, without encroaching on its legal debt limit. Revenue bonds, issued subject to servicing solely from water charges or other revenue associated with the asset, were widely held by the courts not to represent a debt of the borrowing government. Some states apply a variant of the special fund doctrine which permits a device of this sort to be set up only where the revenues represent new charges or earnings, not where the revenue proposed to be pledged for bond repayment comes from sources that have previously supplied the general fund of the borrowing government.

A third avoidance device is the special district, in effect a local government created by or pursuant to state authorizing legislation. Where such special districts are authorized to issue full faith and credit debt and to impose property taxes, they have general obligation borrowing power which is additional to the borrowing power of other property taxing units. Some of these methods have been combined in building or financing authorities, a relatively recent development. Under this approach, a local or state government agency borrows to construct a facility issuing bonds that are to be serviced from rentals paid by the benefited government unit. Where this device is judicially sustained, the bonds fall outside debt restrictions because of the special fund doctrine and the rental payments are not considered to represent debt service.

A growing variety of applications of these and related devices has been developed. For example, the special fund doctrine has been extended in some states to exempt from such restraint "revenue" bonds which are backed, not by user charges or earnings, but rather by earmarked revenue from state grants or from specific local non-property taxes. Whether or not some of these special devices could be employed to finance a shelter construction program will depend upon the particular authorizing statutes and the court decisions relating to these devices.

In the case of California, the assessment district could be used to finance such a program. Although this method of financing public improvements has been in long use in California, it was not until the 1961 session of the State Legislature that the appropriate statutes were amended to permit the construction and maintenance of shelters.\* This approach to the problem is described quite fully in the Livermore report and will not be discussed at length here. However, it should be pointed out that, as in the case of general obligation bonds, it is

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\* The legal and practical feasibility of establishing "shelter districts" in Colorado and certain other states is discussed in John S. Kiamore, Pilot Study of Establishment and Maintenance of Community Shelters by Special Districts, Denver Research Institute, University of Denver, January, 1962.

necessary to obtain voter approval. This is accomplished by the holding of a public hearing to give owners of the majority of the property within the district an opportunity to protest the formation of the district. A major difference between the assessment district approach and the use of general obligation bonds relates to voter approval. The former requires that formation of the district not be protested by a simple majority of the owners of the affected property, whereas the general obligation bond issue requires a two-thirds favorable vote by the qualified electorate.

A particularly difficult problem associated with this method of financing shelters is the determination of the assessment formula. In the Livermore case, it was decided, after considerable investigation, that the charge should be based upon the classification of residential use. The method used was to classify the various types of residential facilities according to average population per living quarters to assign rates starting with 1 for the single family residence and declining according to the average population per living quarters associated with other types of residential facility. Residential land that was not developed was subject to a contingent contract where assessment would be determined upon construction.

Though this type of financing plan tends to place the burden of cost directly on those who benefit, namely, the property owners, there may be complaints of discrimination particularly from owners of multiple-family dwelling units, motels and hotels. It is conceivable that a hotel could provide shelter capability for its guests at less expense than would be involved in construction of a community shelter and application of an assessment formula. The same possibility would apply, in the case of Livermore, to the sanitarium which was to be billed a substantial sum of money for its share of the shelter capacity. The problem becomes more complicated where residential areas could possibly be served by shelter capacity constructed in other non-profit institutions or in industrial or commercial buildings.

In other words, the coordination of a community plan of this type, based on an assessment procedure, with other types of shelter provision that might exist as a result of various private or non-profit activities would be extremely difficult and would require considerable



planning not only by local subdivisions but by other units of government. It would seem necessary, therefore, to have effective over-all state control in order that an integrated program could be developed at minimum cost. It should be pointed out that a town like Livermore presents a different problem than exists in an area such as the San Francisco Peninsula where numerous local subdivisions adjoin and where possible alternative locations for shelters other than of a community type are scattered throughout the area.

If the assessment district approach were regarded as a relatively equitable method for distributing the burden of shelter costs, some encouragement could be given by the federal government and by state governments that impose an income tax. Assessments levied for shelter construction could be made deductible for personal income tax purposes; some assessments are currently deductible but clarification would be required.\* This incentive is subject to the same criticisms as were raised in the discussion of individual incentives.

#### Lease Purchase Financing

Another method for financing local public improvements has become somewhat more common in recent years. This is known as the executory or installment contract, or as defined in the Livermore report, lease-purchase financing. Under this approach a unit of government contracts with a private builder who agrees to construct a particular facility and lease it to the government for an extended period, with title to be conveyed to the municipality at the end of the lease.

The specific proposal suggested for Livermore involved the handling of the lease-back arrangement by a private non-profit corporation, the board of directors of which would consist of prominent local citizens. The non-profit corporation would enter into the lease with the city and would obtain a ruling from the Internal Revenue Department that any bonds issued would be tax-free. After such a ruling was obtained, the sponsors of the plan would obtain a commitment from some

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\* A ruling would be required from the Internal Revenue Service in order to clarify the tax treatment of assessments for shelter purposes. Rulings would also be required from states imposing an income tax.

financial institution to purchase its bonds and the city, although not contractually bound for the period of the lease, would be responsible for payment of the costs of amortizing the bond issue.

A major disadvantage of this financing plan is that, although the agreement between the city and the non-profit corporation or private builder is negotiated for 15 to 20 years, there may be some doubt with respect to legal enforceability since the city must adopt the necessary funds for these payments in the budget each year. The California Supreme Court has recently ruled that agreements of this type are legally enforceable, but the extent to which such an interpretation prevails in other states was not investigated. Although the corporation has the option of taking over the facilities in the event of non-payment, this would be of no particular advantage unless the original design provided for an alternative use. Consequently, buyers of bonds issued by a non-profit corporation of this type must assume that the local subdivision would not abandon the facility or substitute some other facility for it. To the extent that more risk is associated with this type of an investment, the interest cost would be higher than for general obligation or revenue bonds, if, in fact, the issue could be placed at all. There would be additional costs associated with the formation of a corporation, clarification of tax rulings, and other matters.

One feature of this plan that makes it unique as far as local sources of financing are concerned, is that the program could be formalized and officially executed without recourse to the electorate. The electorate does, however, become involved when elected officials seek re-election.

An alternative to the issuance of bonds might be applicable in certain situations. A group of local leaders could form a non-profit shelter corporation and use their collective borrowing capacity to obtain loan funds. Since this would reduce their ability to obtain loan funds for other purposes, it might be appropriate to charge a minimal fee for providing this service. The possibility of reducing cash requirements by soliciting gifts of cash, materials, labor, and other

services and of obtaining a ruling from the Internal Revenue Service that they be characterized as tax-free gifts could also be investigated.\* If Internal Revenue Code definitions (on the basis of which eligibility is determined) do not include such corporations, consideration should be given to obtaining the appropriate ruling or broadening the definitions. However, as was suggested above, this approach would have limited application and would require considerable pressure for shelter capability, at least by community leaders. Use of the tax-free gift approach may also be opposed by other organizations depending upon gifts for their support.

#### Availability of Funds for Shelter Construction

Perhaps the most important conclusion from this brief summary of financing alternatives available to local units of government is that there is considerable variety in the flexibility available to local jurisdictions, at least as far as statutes and constitutional provisions are concerned. However, it seems obvious that local government, in general, is short of funds, particularly capital funds, and that existing legal restrictions have forced the establishment of a multitude of local units, such as special districts, school districts, and so on, in order that the statutory or constitutional provisions can be avoided. The fact that these units exist complicates the financing picture considerably. It implies that, if a major expenditure program, such as a shelter construction program, is contemplated, the alternatives, in practice, become relatively limited. A particularly important fact is that public support must be generated since most of the financing methods involve acceptance by the general public, generally to the tune of a simple majority, and in many cases, a two-thirds or greater majority.

Competition for property tax revenue in California has become increasingly acute because of the problems that have arisen in the public

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\* Under existing law, contributions to a civil defense group created by the federal, state, or local government are regarded as tax-deductible. However, a ruling would have to be obtained with respect to the treatment of contributions to a non-profit shelter corporation.

school sector caused by rapid increases in population and in demands for education. There is concern that property tax revenues for financing public school education may not be as readily available to school districts in the future as in the past. In spite of this pressure and obvious need, there is evidence of an increasing reluctance on the part of voters to approve all proposed increases in school district property tax rates and bond issues for public schools. In 1961, for example, over 63 percent of the dollar value of public school bond issues submitted to voters in California school districts failed to pass. In a group of California counties that account for about 50 percent of the State's public school attendance, 43 percent of the tax rate elections failed in 1961. Both of these percentages represent substantial increases over 1958.

Not only does there appear to be a trend indicating increasing difficulty in obtaining public support for bond issues or for increased property tax rates, but there are wide differences within the State in both ability and willingness of local jurisdictions to raise revenues from property or other sources. Because of differences in ability to pay, a program of State aid has been designed to help finance educational construction and the operating costs of education. But the aid is based upon specified levels of local effort in an attempt to obtain uniformity within the State.

The available evidence suggests that there is less public support for shelter construction than for public school construction. In the absence of a crisis situation or of a comprehensive public information program it is unlikely that a major capital outlay for shelters, even one supported on a similar basis to the educational program, will receive adequate public support. However, it is useful to analyze the various approaches that have been employed to aid local jurisdictions as a basis for evaluating possible financing alternatives applicable to shelter construction. The state-local arrangement for obtaining loan funds that has been set up in California to help local school districts finance their construction programs will be described in the next section. Other major programs have involved federal participation, with matching funds supplied by the state, and in many cases by local units of government. These programs will also be discussed later.

## V STATE AID IN THE PROVISION OF LOCAL SHELTER CAPABILITY

### Forms of State Aid

State aid to local subdivisions in California has taken several forms--loans, outright grants, and shared revenues. State aid may also be divided into aid for capital construction purposes and aid for meeting operating costs. The picture is not clear-cut, however, since state aid for operations expenditures tends to relieve the burden on local taxes and thereby, in effect, provides additional revenues locally for capital construction. In other words, if the state were to assume the entire cost of operating the shelter program, the total cost liability of local sub-divisions would be limited to construction expenditures and would thereby be reduced. On the other hand, the state could provide assistance for construction by means of direct grants or loans to the local sub-divisions involved, and assume no responsibility for operations.

Traditionally, a number of functions have been carried out in California almost entirely by the state. These include construction and operation of state prisons and youth authority institutions, construction and operation of mental hospitals, and construction and operation of state colleges and universities. On the other hand, construction and operation of general hospitals has, until recently, been left almost entirely to the discretion of local sub-divisions. Currently, the state is participating in a federal program that provides for federal, state, and local sharing of construction costs. This program is discussed in more detail below under "Federal Aid in the Provision of Shelter Capability."

In recent years, there has been some attempt to shift at least a part of the responsibility for certain of these programs to local subdivisions. The basis for advocating such a shift appears to be that many of the problems associated with the people involved are local problems and can be handled more effectively locally. It is recognized, however, that there is need for state assistance. One example of this

type of program is the assistance provided to counties for the construction of juvenile homes and camps. In accordance with the provisions of the Welfare and Institutions Code, the state may reimburse counties for one-half of the cost of constructing and equipping juvenile homes, ranch camps, or forestry camps. There is a limit of \$3,000 per bed unit on the amount of state aid provided. Another example is the current program of assistance to local agencies for mental health services. At this point financial assistance is limited to operating expenditures as is local assistance for a number of public health functions. The affect of such assistance was to supplement local functions in jurisdictions where activities were already underway and to increase local expenditures where the activity was not being performed or was being performed in an inadequate manner.

Many other programs have traditionally been regarded as local programs. The most important of these is the school program. As far as state aid is concerned, the emphasis has been upon assisting local school districts meet their heavy operating expenses. Assistance in capital financing has been limited to loans rather than grants. The loan program has been operating since 1947 and is based upon ability of local districts to issue bonds to cover the necessary construction. A school district becomes eligible for a loan from the state after its outstanding bonds exceed 95 percent of the maximum permitted by the laws in effect on the date the conditional apportionment is made. By this approach, the state supplements local school district bonding capacity with its own bonding capacity. The amounts to be repaid by school districts are determined each year by the relationship between assessed valuation of the borrowing district and the amount the district must raise by local property taxes for payment on its own bonded debt. The period of repayment of deferred amounts is now 40 years and any unpaid balance is cancelled after that time.

As far as shelter construction under this program is concerned, the California State Department of Education has stated that it will not penalize any school district on its state aid formula for school buildings which include shelter facilities provided the school meets the requirement of good educational space. However, this is a loan program

and, given the general shortage of funds for school building construction, school districts are unlikely to underwrite any increased cost due to the inclusion of shelter facilities.

Other states have employed different techniques to aid school districts finance the construction of buildings. Public school building authorities have been employed to construct buildings that are then leased to school districts with the option to buy. Incentive plans and other devices have been utilized to provide financial assistance. But few states have developed systems that provide for appropriation of public monies for the construction of fallout shelters in schools.\*

California also provides assistance to junior colleges. In 1961, \$5 million was appropriated for payment of interest and redemption of outstanding bonds issued for junior college purposes or for loans from the county school service fund for capital outlay purposes, and for purchase or improvement of junior college sites, or the planning or construction for the junior college buildings on a matching basis, not to exceed one part state funds for four parts district funds. Since the 1961 program, which was essentially devoted to tax relief, offered no permanent solution to the shared responsibilities of the state and junior college districts, \$20 million for junior college construction was included in the state building bond program. These funds are to be used as an aid in solving the unmet growth needs for junior college facilities. The procedures for distributing these funds on a cost sharing basis were spelled out in the 1963 session of the legislature. But the enabling legislation recognized the fact that this constitutes a temporary program and directed that a comprehensive study be undertaken to develop a continuing program of assistance.

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\* See Carl B. Franzen, James J. Hall, and Albert J. Reindeau, Precedents for Joint Use of School Facilities and Their Applicability to School Shelters, A Report to the Office of Civil Defense from the School Planning Laboratory, School of Education, Stanford University, April 9, 1963, for a discussion of legal, financial, and operational aspects of developing shelter capability in the public school system.

Another area involving capital construction, but of a relatively minor size, is concerned with small craft launching facilities and harbors. The Public Resources Code authorizes the Small Craft Harbors Commission to make grants to cities, counties or districts for the construction and development of small craft launching facilities. These grants are made in areas of greatest public recreational boating need and for projects which would not be constructed in the absence of a grant or unless other state agencies provided funds. The grants, therefore, are made on the basis of recreational need and local ability. The Public Resources Code also authorizes the Division of Small Craft Harbors to make construction loans to cities, counties, or districts having the power to acquire, construct, and operate small craft harbors. Advances made by the state under this program are, for the most part, from the Small Craft Harbor bond fund and are subject to a number of restrictions, including a repayment agreement approved by the governing body of the requesting public agency. In terms of capital requirements, this program, as in the case of the launching facilities program, is relatively small. It is interesting to note that, in this area of small craft use, both grants and loans were employed to improve local facilities.

There is another program involving state assistance for capital construction which has not been utilized to any appreciable extent. This program provides for financial assistance to counties for the construction of jails. Under this program, funds can be made available only if the county does not have a jail meeting minimum standards for jail construction, as promulgated by the Board of Corrections, and if the financial resources of the county are such as to warrant state assistance. This is a loan program and there is automatic provision for repayment because the Comptroller withholds payments due the county under the Business and Professions Code until the required amount, plus specified interest, have been repaid.

Another type of assistance employed by the state is referred to as shared revenues. Under this general area are included statutorily prescribed apportionments of various taxes and fees. Some of these are



apportioned for general governmental purposes but others are apportioned for specific statutorily-defined functions. For example, net receipts of 1-3/8 cents per gallon of the motor vehicle fuel tax are apportioned to counties for the express purpose of maintaining or constructing county roads. Another apportionment is made from receipts from motor vehicle registration and weight fees for the specific purpose of maintaining, improving or constructing county roads. Five-eighths cents per gallon of the motor vehicle fuel tax is allocated to cities for streets. Although the law does not state explicitly that, where some dual purpose capability could be introduced into the road and street system, funds cannot be used for this purpose, studies by the State Division of Highways indicate substantial and growing deficiencies in the system. The likelihood of such funds being made available for shelter capability appears remote.

The preceding description applies specifically to California. Except for a brief reference to school building construction, the details of programs in other states providing for assistance to local sub-divisions have not been investigated. However, many states employ grants, loans, and shared revenues to expand local capacity to finance necessary capital programs and to assist local jurisdictions to meet operating expenses attributable to these and other programs. Before suggestions could be made for a specific approach to the problem of state aid for shelter construction, some knowledge would have to be developed with respect to the tools available in other states.

#### Availability of State Aid

In the case of California, it is likely that substantial state aid for shelter construction would require voter approval of a large bond issue. An evaluation of the outlook for revenues and expenditures at the state level in California, conducted recently, suggested that, during the next five to ten years, virtually all of the projected general fund revenues would be required to finance expected operations and local assistance expenditures. Major capital outlay expenditures, therefore, would require resort to the state bonding capacity. This finding was based upon the assumption that no major program changes would occur and

that no changes in tax rate or definition of tax base would be made. In other words, it is evident that any future major capital outlays will have to be made from bond funds unless substantial changes are made in the tax structure of the state and minimum response to demands for increased funds from competing programs is made. The question then arises as to whether additional use of bond financing by the state rather than by local sub-divisions would be more desirable in the long run and whether, in fact, there is a reasonable chance that future bond issues, particularly those devoted to shelter construction, would be approved by the voters.

The extent to which capital fund shortages exist in other states has not been ascertained. There will be substantial variations because of historical differences in capital requirements, variety in emphasis on available tax sources, and differences among states in the distribution of responsibility between the state and local sub-divisions for performing and financing governmental functions. There is also considerable variation among states in the relationship of tax collections to personal income and, therefore, in the extent to which taxable capacity is being exploited. And, the relative importance of non-tax sources of revenue such as charges and assessments, insurance trust revenues, liquor store earnings, federal grants-in-aid, etc. varies greatly from state to state.

To date, only New York state has initiated a major program of aid for shelter construction. The \$100 million appropriated for the program was obtained by "unfreezing" a reserve that had been set aside earlier to match additional federal highway funds expected to be appropriated by Congress. This reserve apparently was not created by funds earmarked for highway purposes; typically such funds cannot be allocated to other functions. Future funds for shelter construction, when required, will have to be appropriated by the legislature if the program is to continue. At that point the shelter program will be in direct competition with other major state programs. Apparently, response to the program has been minimal.

If, in fact, heavy reliance on the bond market by states would be required, the impact would be substantial. Some research should be devoted to an assessment of the ability of the market to absorb a large increase in state bonded debt over a relatively short period. Analysis should also be made of the differential ability of states to market bond issues and of the resultant differences in cost.

## VI FEDERAL AID IN THE PROVISION OF SHELTER CAPABILITY

### Current Federal Aid Programs

The extension of grants by the federal government to states is a long standing relationship. As early as 1785 the federal government, operating under the Articles of Confederation, sought to aid education by granting land for public school use. In 1862 land grants for the creation of colleges were established. These early grants were outright gifts requiring no matching funds by the state and involving no federal supervision of programs. However, the Land Grant Act of 1862 did institute certain federally required minimum standards.

Beginning late in the nineteenth century, grants for education and research were increased, especially in the area of agriculture, and these were accompanied by the gradual imposition of federal standards and conditions for the programs supported. The first really significant grant program was established by the Federal Road Act of 1916. The program is significant not only in terms of the amounts of funds extended, but because federal approval and supervision of projects were initiated for the first time. Matching provisions were provided for, and each state was required to set up a highway department in order to receive funds.

During the depression of the 30's and World War II, many emergency measures were established and subsequently repealed. Generally speaking, grants for social welfare, health, and security were the most important areas receiving attention during this period; the Social Security Act of 1935 is perhaps the most important and lasting measure. More recently, new programs providing for interstate highway grants and grants for airports, urban renewal, and higher education have been established. In a relatively short period of time, federal aid to state and local governments has become a major factor in the financing of essential governmental functions.

In general, grants can be divided into two categories--stimulative grants and support grants. The stimulative grant is designed primarily to induce states to expand expenditures in a particular field and is not designed to lessen or support existing state programs or expenditures. The highway aid program provides a good example of such a grant. In this case, a national system of roads for defense and other purposes was felt to be needed by the federal government and it was deemed unwise to initiate programs in an independent fashion.

A support grant, on the other hand, is designed to reduce burdens on state budgets where the federal government feels that the need is generally well recognized and the program adequately performed by the states. The aim, therefore, is to assure support for at least minimum standards across the United States in certain functions. The program of assistance for social welfare activities is an example of such a grant. Actually, it is difficult to draw a line between the two types of programs since, quite often, both of the basic aims are intertwined in one program. Furthermore, some grant programs which have begun as stimulative programs have become, in the long run, support activities.

Generally speaking, existing arrangements between federal and state governments are based on the following premises:

1. The federal government has a larger variety of tax and borrowing resources than do most states or local governments.
2. The federal government may be capable of collecting and administering certain taxes more efficiently and economically than smaller governmental units.
3. Many state and local governments have experienced a widening gap between tax revenues and total expenditures during the postwar period.
4. The federal government, in many instances, is able to float bond issues more efficiently and economically than many state and local governments.

On the other hand, persons arguing against federal grants believe that such arrangements typically distort budgets in the sense that

there may be an inclination to neglect other programs in order to provide funds for matching grants. Furthermore, the less wealthy states may strain their budgets in an attempt to provide matching funds. Others argue that federal grants are unconstitutional because the controls connected with the grants constitute an invasion of state rights by the federal government. In passing, it might be noted that many of those who believe federal grants to be unconstitutional will support the legality of state grants to local governments on the grounds that the latter were created by the state and are agents of the state government, rather than sovereign entities.

The major federal grant-in-aid programs as of the end of the fiscal year 1964 were highway programs, accounting for 37 percent of total federal grants to states; welfare programs, accounting for 40.5 percent; and education, accounting for 55 percent. There are numerous other federal aid programs to states and local subdivisions, some of which employ the grant principle and some of which provide loan funds at more favorable terms than could be obtained otherwise. Several programs provide for both grants and loans. The following discussion is limited largely to programs involving capital expenditures and attempts to identify those programs that offer possibilities for expansion of shelter capability within their existing frameworks as well as program features that might usefully be incorporated into a nationwide shelter program.

#### Highways

The federal aid program to assist state highway departments is administered by the Bureau of Public Roads (BPR), U.S. Department of Commerce. The program covers construction of the interstate highway system and of primary, secondary, and urban roads. Federal funds are apportioned to states by methods established by law and must be matched on a 50-50 basis for federal aid to primary and secondary systems; and on a 90 percent federal, 10 percent state basis for the interstate

system.\* The routes of these systems are selected by the states subject to BPR approval. Most experts on intergovernmental relations believe that the highway program is well developed and well established from both the federal government's and the state's point of view. The success of the program is apparently due to the "partnership" between the various state governments represented by their highway departments and the federal government represented by the Bureau of Public Roads. Basically the objective is the same for all concerned--a nationwide program to improve the highway transportation network--and since each of the states has a common federal partner, cooperation of adjoining states has been maximized.

#### Welfare

Federal assistance under the welfare program has been designed to help states provide financial assistance, medical care, and social services to the needy aged, the blind, the totally disabled, and to dependent children in broken families or in families in which the bread-winning parent is unemployed. No construction is involved in this program and it will not be discussed at length. However, certain points that are relevant to the discussion of federal aid for shelter construction will be mentioned. For example, the program must be in effect in all parts of the state and a single state agency must administer the program or supervise its administration. Although primary responsibility of states is administration of these federally aided programs, standards of assistance and eligibility for assistance in individual cases are set at state level, subject to certain federal minimums specified by law, and major program effort is undertaken by local jurisdictions. Financing is the responsibility of federal, state, and local governments, the specific formulas for allocation varying by program.

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\* In states where federally-owned land constitutes more than 5 percent of the total area, the proportion of federal funds is increased.

### Education

Federal aid in the area of education (other than higher education), in general, is not extended for purposes of construction. The only program permitting federal funds to be used to construct school facilities is that providing aid to school districts in federally-affected areas. These are areas in which districts are burdened by an influx of school children whose parents are federally employed and in which local taxable resources have been reduced through federal ownership of real property. The Office of Education, U.S. Department of Health, Education and Welfare, in cooperation with the Community Facilities Administration, administers this program; funds are provided for school construction and for maintenance and operation of schools.

Certain other programs in the area of general education are administered by the Office of Education under the National Defense Education Act and other acts. In addition, federal grants are made available to state library extension agencies to assist rural areas in expanding or improving public library services. However, as pointed out above, these funds are not available for construction.

In the area of higher education, a program to aid construction at public and private four-year colleges and junior colleges was approved by the Congress in December, 1963. Although the original enactment placed restrictions on the use of funds, it has since been amended to permit aid for any type of undergraduate construction. The program is administered by state commissions--in California, by the California Coordinating Council for Higher Education.

### Transportation

There are a number of other programs of federal aid that could suggest approaches to the problem of federal participation in the development of shelter capability, or that might be employed as a vehicle for providing at least a portion of the required capability. In the area of mass transportation, the Urban Transportation Administration of the Housing and Urban Development Agency (HUD) provides grants and loans to states and local public agencies to assist in the development of coordinated mass transportation systems in urban areas.



Grants may be made for up to two-thirds of the cost of acquisition, construction, and improvement of mass transportation facilities and equipment that cannot be reasonably financed from transit system revenues; low-interest loans for the entire cost of capital improvements may be made for up to 40 years when private financing is not available at reasonable terms. Demonstration projects in all phases of urban mass transportation may also be undertaken by public agencies. The demonstration projects are primarily oriented to operational problems of mass transportation rather than to planning or basic research. Grants for up to two-thirds of the cost of approved demonstration projects are available.

There appears to be no restriction in the law that would prevent the construction of dual-purpose facilities in connection with the development of a mass transportation system. There is also no requirement that this be done or that civil defense needs be explicitly recognized. Although dual-purpose use of mass transportation systems may offer considerable shelter potential, it is unlikely that local agencies generally would resist any provision requiring consideration of another variable that, in addition, might result in increased cost.

Another area of federal assistance in the general field of transportation is administered by the Federal Aviation Agency (FAA). This program is designed to help public agencies participate in the development of an adequate nationwide system of public airports. Grants are made on a matching basis with the federal government generally providing 50 percent of the cost of airport development and the local public agency the remaining 50 percent. Grants are available for projects considered essential to the operational safety of airports and can include such activities as land acquisition; site preparation; construction, alteration and repair of runways, taxi-ways, aprons, and roads within airport boundaries; construction and installation of lighting and utilities; and certain other on-site and off-site work. FAA annually prepares a national airport plan for the development of public airports in the United States. Substantial aeronautical necessity within the established forecast period is a criterion used for including an airport in the plan, and assistance can be made

available to state, county, municipal or other public agencies that are in the area included. Since federal grants under this program are limited to projects essential to operational safety, it is unlikely that funds could be employed for shelter purposes.

#### Hospital and Medical Facilities Construction

The Hospital Survey and Construction Act of 1946 (PL 725 79th Congress), commonly referred to as the Hill-Burton Act, was designed to survey hospital needs and to assist local sponsors in the several states in the construction of public and other non-profit hospitals. Because few hospitals had been constructed in the United States during the depression years and World War II, many hospitals have become obsolete and manifest shortages in the number of hospital beds and other related health facilities and services became apparent.

The Hill-Burton Act provided the basis for a nationwide appraisal of existing hospital and public health center resources and for the development of comprehensive state plans for furnishing adequate services throughout the country. The original Act was amended in 1954 in order to assist the several states in the construction of diagnostic centers, or diagnostic and treatment centers, hospitals for the chronically ill and impaired, rehabilitation facilities, and nursing homes. In 1958, Congress further amended the Act to give eligible sponsors the option of taking a loan rather than a grant. The bill provided for loans to be made for a maximum of 40 years at a low rate of interest established at the time the project is approved. Other liberalizing amendments were made by the Community Health Services and Facilities Act of 1961.

Federal funds appropriated annually are allotted to states on the basis of a statutory formula, recognizing both need and capacity, that is based upon population and income. The distribution within the state of these funds and of state matching funds is the responsibility of a state agency established or designated by law for this purpose. The rate of federal participation in any project is determined by the state agency on the basis of the state allotment percentage, subject to a minimum of 33-1/3 percent and a maximum of

66-2/3 percent. The allotment percentage is a function of per capita income in the state relative to United States per capita income. In the case of California, federal participation is 33-1/3 percent and state matching funds of the same amount are provided. Therefore, local non-profit groups are required to provide 1/3 of the total cost.

Since it is the responsibility of the state agency to allocate federal and state funds to sponsors or owners within the state it is necessary for the state agency to establish an objective priority system. This requires, in general, the preparation of an annual inventory of existing and proposed facilities, the classification of facilities by category of services, the estimation of need by category of facility within hospital service areas, and the determination of relative need among hospital service areas throughout the state in each of the facility categories based upon comparison of the inventory of existing and proposed facilities with estimated needs within each hospital service area. A continuing review of the delineation of hospital service areas on a geographical basis is also necessary. In order that a program of this magnitude can be carried out effectively, the federal law requires that each state develop a long range state plan which becomes the basis for recommendations of allocations to projects in accordance with a rational priority sequence.

Private non-profit organizations, states, and other public agencies are eligible to receive a federal grant or loan for the construction of hospitals and other related health facilities, provided of course, that the proposed projects meet the community need, as determined by the state agency, and are included in the state plan. Projects may consist of the construction of completely new buildings or the remodeling or expansion of existing facilities. Each year, when federal and state funds become available for allocation, applicants are given the opportunity to make presentations in support of their applications. Allocations are made to projects in accordance with the priority sequence established in the state plan for the year, on the condition that the necessary local funds to finance the project will be assured within a specified time. Applicants receiving grants agree to the following conditions:

1. The hospital will be operated in non-profit status for a minimum of 20 years.
2. The hospital will accept patients without regard to race, color, or creed.
3. The hospital will provide a reasonable amount of free care unless other arrangements exist.
4. The hospital agrees to certain minimum standards and technical matters relating to construction are specified by the state.

The principles incorporated in the hospital construction program summarized above, could well be applied to a civil defense shelter financing program. These principles include local control, initiative, and financial contribution; state over-all administration, responsibility for a long-range plan, and financial contribution; and federal minimum standards and financial contribution based upon need and ability to pay. If the non-profit characteristics of the Hill-Burton program were retained, a similar program for shelter construction would be limited to governmental entities or non-profit corporations existing or established for the purpose. This would still permit private activities without state or federal support as is also the case for hospitals. Although a long-term state plan for the development of a shelter capability could be prepared, it would be difficult to set up a priority system because of the small amount of shelter space currently available in most areas. Even if such a program were established, there would still remain a difficult problem of local financing since, for many states, at least one-third of the total cost would have to be provided locally and some method for encouraging local initiative would have to be devised.\*

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\* Classification by IRS of payments to a non-profit shelter corporation as tax-free gifts might tend to stimulate local initiative; however, the individual would be forced to choose between a gift for shelter purposes and one to numerous competing charities. Objections from such competing groups can be anticipated.

With respect to the use of the existing hospital construction program as a vehicle for increasing shelter capability, there are a number of problems. It is the opinion of state officials involved in the administration of the program that the federal law and the complementing state legislation are so specifically worded that it would not be possible to utilize hospital construction funds for purposes other than those strictly related to provision of hospital services. This opinion would have to be checked out with attorneys working in the specific area. Another problem relating to the utilization of this program for the development of shelter capability is the fact that a considerable portion of the funds provided for this purpose are being employed for purposes of modernization. This type of expenditure is frequently applied to hospitals that have become obsolete and where space is already a serious problem. The difficulty of incorporating shelter capability into buildings already short of space is apparent.

New construction under the Hill-Burton Act appears to be taking place in rapidly growing suburban areas. These are areas where shelter capability is generally inadequate and it certainly would be desirable for further work to be done with respect to dual-purpose utilization of hospital space. Whether sufficient space could be made available even in a new hospital for more than hospital staff and patients is a question that needs to be investigated more fully.

The basic problem remains, however, that utilization of this program to provide shelter capability, even on a dual-use basis would result in some diversion of funds to civil defense from public health. This, without doubt, would cause considerable objection by the various administering agencies and local groups since most would agree that the program as it now stands is underfunded. A further problem would be the possible conflict between health and civil defense people with respect to space utilization and design. It is critical, therefore, if any success in providing shelter capability in hospitals is to be achieved,

for careful studies to be continued of design alternatives involving dual-purpose use and maximum utilization of space.\*

#### Community Facilities Administration Loan Programs

Among the programs administered by the Community Facilities Administration of the Housing and Urban Development (HUD) Department are the college housing and public facility loan programs. Both programs provide for loans by government purchase of bonds but emphasis is placed upon the private bond market.

Under the college housing program, loans are made to institutions of higher learning for construction of dining halls, cafeterias, college unions, infirmaries, and residence halls and housing accommodations for married students and faculty members. The program was expanded in 1957 to include loans to hospitals for housing student nurses, interns, and resident physicians.

The interest rate has varied during the life of the program from 2-3/4 to 3-1/2 percent and was 3 percent as of August 11, 1965. Loans with maturities of up to 50 years are made through government purchase of bonds issued by the institution. Bonds are first offered for sale in the open market but are purchased by the government if there is no equal or better bid by private investors or bond houses. The government takes that part of the issue not sold to private investors.

The Public Facility Loans Program is limited to communities with a population not in excess of 50,000 except in areas eligible for Economic Development Administration assistance, where the ceiling is 150,000. The interest rate is limited by statute to the average cost of the interest-bearing debt of the U.S. plus 1/2 percent. On July, 1962, the Administrator set the rate at 3-3/4 percent except in redevelopment areas where the rate was set at 3-1/2 percent; rates as of January, 1966, were 4 percent and 3-3/4 percent, respectively.

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\* See, for example, Fallout Protection for Hospitals, U.S. Department of Health, Education and Welfare, Public Health Service Publication No. 791 (Revised), February, 1962.

As in the case of college housing, private bids must be sought before the loan can be made. Bonds may be offered in blocks so that some maturities can be sold privately and others can be taken by the federal government. Since all loans must be assured of repayment, each application is carefully reviewed to insure that tax or other revenue is sufficient to meet operating and maintenance costs and principal and interest payments.

With respect to both programs, the policy regarding shelters is clear--shelter space sufficient to protect the average number of occupants can be provided. In the case of college dormitories space sufficient for residents and staff can be included in the plans. In the case of other buildings, such as student unions or local government buildings, allowable space would be determined on the basis of average occupancy. Apparently, utilization of either program as a means for constructing relatively large shelters is not regarded as feasible because of repayment problems.

To date, there has been little interest in shelter construction by participants in this program. The effect of a mandatory provision, limited (say) to the type of capability now permitted, is difficult to evaluate. To the extent that cost increases more than offset the advantages of government participation, there would be a shift to the private market. If effective dual purpose capability could be developed, cost increases could be minimized and there would presumably be less resistance to a mandatory provision. Since the interest rate is partially subsidized in any event, consideration could be given to further subsidy through the interest rate. This alternative, however, should receive further study before implementation is seriously considered.

The Community Facilities Administration also administers a direct loan program for senior citizen housing. Sponsors eligible for direct loans include private non-profit corporations, such as religious, civic, fraternal, and labor groups, consumer cooperatives, and public agencies and bodies. The objective of the program is to provide housing for retired persons in the lower middle income group at rents they can

afford. To this end, loans are made available for periods of up to 50 years at low interest rates--3 percent as of August 11, 1965. There is no restriction on location except that there must be sufficient demand to insure full occupancy.

This type of project, in theory, would lend itself to the provision of community-type shelter facilities, particularly since many such projects include community buildings or other central facilities. However, cost is a critical element in this program and a requirement that shelter provision be made could reduce its effectiveness in achieving currently established goals.

#### Small Business Administration Loan Program

The Small Business Administration (SBA) helps small manufacturers, wholesalers, retailers, service concerns, and other businesses obtain financing on reasonable terms. A small firm is defined as one that is independently owned and operated, is nondominant in its field, and meets certain size criteria that vary by industry. To be eligible for a loan the applicant must also meet the credit requirements established by SBA.

In general, loans will not be granted if funds are otherwise available at reasonable terms, if certain specified activities are involved, or if the loan is for certain purposes. Where not ineligible for one of these reasons loans can be made for construction, conversion, or expansion; for purchase of equipment, facilities, machinery, supplies, or material; or for working capital. SBA loans are of two types: "participation," where SBA joins with a bank or other private lender; or "direct," where the loan does not involve another lender. Participation loans may be entered into under a guarantee plan or on an immediate basis. Under the Small Business Act, SBA cannot enter into a direct loan unless a participation loan cannot be arranged, nor can it enter into an immediate participation loan unless a guaranty (deferred) arrangement cannot be made.

The interest rate for a direct loan and for SBA's share of a participation is 5-1/2 percent. A private lending institution may charge higher rates provided such rates are legal and reasonable.



There is no restriction in the law with respect to shelter provision by small firms applying for SBA assistance. However, the program was designed to aid firms that have difficulty obtaining adequate capital on their own. Any increase in capital cost would aggravate this problem. Furthermore, since much of the borrowing under this program is for purposes other than construction, the potential impact of requiring shelter construction where feasible cannot be ascertained readily.

#### Economic Development

The Public Works and Economic Development Act of 1965 provided for the establishment of an Economic Development Agency (EDA) with responsibility for helping areas and regions of substantial and persistent unemployment and underemployment to take effective steps in planning and financing their public works and economic development. The act reflects the experience obtained in administering earlier programs concerned with similar problems--the Area Redevelopment program and the Accelerated Public Works program. This experience indicates that the scale of assistance must be sufficient to make a significant impact on the structure of an area and that the areas assisted should be large enough to provide a resource base for self-sustained growth and to support the full range of community services and public utilities.

The assistance provided involves the following:

1. Loans and grants to communities to help provide or improve public facilities that will contribute directly to new and permanent commercial or industrial employment;
2. Low-interest long-term loans, loan guarantees, or partial payment of interest to help new industrial or commercial firms get started or existing ones expand; and
3. Technical assistance to help communities plan and work out a program of economic development.

Although EDA is expected to obtain interagency cooperation in administering its program and to utilize other federal agencies where appropriate, the agency has considerable flexibility to supplement the

activities of these agencies to reflect the needs of the area under consideration and the nature of the project.

The program emphasizes local initiative, planning, and participation within the eligible areas. A representative local group is first established to represent the area; in the case of multi-state regions, a regional commission is formed consisting of a federal member and one member from each participating state.

In the case of an intra-state area, the first task of the local group is to prepare an Overall Economic Development Program (OEDP) describing the economic characteristics of the area, assessing its problems, evaluating economic growth potential, and mapping a plan of action. In the case of an inter-state region, the regional commission is responsible for preparation of a priority listing of recommended programs and projects for future regional economic development.

Some elements of the EDA program may provide useful guidelines for a federal-state-local nationwide shelter construction program. As was pointed out above, the objective of the EDA program is to bring the capabilities of many federal agencies to bear upon chronic unemployment or underemployment problems in particular communities. The program involves planning assistance, loans and grants for capital needs, and technical assistance. These are all elements of an effective shelter construction program.

The OEDP approach for assessing assets and liabilities and potentials for development is a useful tool. Current OCD programs, including the National Fallout Shelter Survey (NFSS) and Community Shelter Planning (CSP), apply similar procedures to the problems of ensuring the use of the best available protection, and of assessing shelter protection needs. These programs are federally funded (except for CSP activities in communities where the work involved in assigning people to shelter is relatively slight). However, to date, no provision has been made for federal funding of shelter development.

The EDA program of loans and grants is tied to repayment potential and contribution of the specific project to reduction of underemployment and unemployment problems. The latter feature is not

relevant in the civil defense case except, perhaps, for the temporary reduction of unemployment during the construction phase of a shelter development program. If provision were made for repayment, potential ability would have to be assessed with respect to the revenue and expenditure situation of the community involved. There might also be a problem in some states because of debt restrictions placed upon local jurisdictions. Furthermore, considerable local initiative and interest would be required under a program requiring local contribution (over time) of most or all of the capital cost. Careful thought would also have to be given to the establishment of criteria for determining the need for grants if both grants and loans were contemplated in the program.

With respect to the possibility of using the EDA program to increase potential shelter space, several comments are relevant:

1. Although eligible areas have been designated in most states, there is a wide variation in coverage from state to state. In some states the areas designated are largely rural and small labor market areas; in other states large urban industrial areas are included. Frequently, the designation results from depletion or decreased use of a natural resource--Pennsylvania, West Virginia, Kentucky, Illinois, Minnesota. Preliminary examination, therefore, suggests that the EDA framework would not be particularly sensitive to need for shelter protection and may, in some of the designated areas, be a less effective means than other available alternatives.
2. There appear to be no restrictions in the EDA legislation or regulations to prevent the administrator from requiring provisions for shelter to be incorporated in local area plans or to prevent local groups from building such provisions into their plans. Likewise, there appear to be no restrictions in the SBA loan program or the HUD public facilities loan program ex-

cept those listed above. However, it is unlikely that the administrator would consider making a ruling of this type without specific expression of Congressional approval. Such approval would not be forthcoming unless it could be demonstrated that this represents an effective approach to the problem.

3. The incorporation of civil defense considerations into the EDA program would require not only administrative cooperation but fairly sophisticated civil defense programs in the areas involved before rational decisions regarding specific location of shelter capability could be made.

### Urban Renewal

The urban renewal program was designed to help revitalize city areas which are decaying and to help reduce blight in urban areas. It is concerned with preventing the premature obsolescence of urban neighborhoods and facilities, with the restoration of declining areas, and with the recreation of areas that are worn out. Basically, the program involves major responsibility at the local level, maximum reliance on private enterprise, and federal government support.

The urban renewal administration administers a number of programs among which are Title I projects, urban planning assistance, community renewal programs, feasibility surveys, general neighborhood renewal plans, non-assisted projects, demonstration programs, and open space land programs. The Title I project, which is provided for by the Federal Housing Act of 1949, as amended, is the most complicated of these programs. It is also the program most adaptable to the incorporation of civil defense considerations. The discussion in this section, therefore, will be limited to an evaluation of Title I projects.

Federal assistance for urban renewal projects under Title I may be given only to local public agencies (LPA) authorized by state and local law to receive such aid and to carry out the various activities involved. The LPA may be a specially-created redevelopment or urban renewal agency, a local housing authority, a city or county or a state-

established agency organized to operate on a statewide basis to aid small communities. In some cases two or more local agencies may work together on the same project.

A number of financial aids are provided by the federal government to encourage urban renewal. The major aids are the following:

1. Planning advances. Federal funds may be advanced to an LPA to finance the survey and planning work necessary to prepare an application for a Title I project.
2. Temporary loans. A temporary loan can be used by the LPA as working capital in acquiring real estate, clearing the site, and preparing the area for redevelopment or conservation and rehabilitation. Such a loan may be either a direct loan from the federal government or a loan from a private financial institution. The latter loan is secured by the availability of federal funds if needed for repayment of the loan.
3. Definitive loans. A definitive loan for a period of up to 40 years may be used to refinance short-term temporary loans when the project land is leased rather than sold to a developer. A definitive loan is amortized from the rental income derived from the land.
4. Capital grants. When the area is ready for redevelopment or conservation and rehabilitation, acquired land is disposed of by sale, lease, or retention for its fair value for uses in accordance with the Urban Renewal Plan of the LPA. If the total return from disposition of land, including the capital value of any land disposed of by lease, is less than the cost of carrying out the whole project, the loss, defined as Net Project Cost, is shared by the federal government and the LPA. The federal share is in cash and is referred to as the Project Capital Grant. The federal share of the net project cost is generally two-thirds. However, the 1961 amendment to the housing act provided that a Project Capital Grant may be

paid up to three-fourths of the net project cost for any project in any small community having a population of 50,000 or less or in a redevelopment area designated by the Secretary of Commerce. A Project Capital Grant (PCG) may also pay up to three-fourths of net project costs for any project for which the net project cost excludes the cost of survey, planning, administrative, legal, and certain other expenses. The city is allowed to pay its share of the net project cost through cash, land, public facilities, demolition, or other works contributed to the project.

5. Relocation grants. Relocation payments in limited amounts may be made by an LPA to individuals, families, and businesses for their reasonable necessary moving expenses and any direct loss of property resulting from their displacement from an urban renewal area. These payments are reimbursed in full through relocation grants from the federal government.

Generally, projects must be undertaken in urban renewal areas that are principally concerned with housing; however, 35% of new PCG can be non-residential. That is, project areas must be either predominantly residential in character before renewal or predominantly residential after renewal. However, there are specific exceptions to this rule:

1. Projects for which the governing body of the LPA determines that renewal for predominantly non-residential uses is necessary for the proper development of the community.
2. Projects located in redevelopment areas certified to the administrator by the Secretary of Commerce.
3. Projects in urban renewal areas involving colleges, universities or hospitals.
4. Projects located in major disaster areas in need of redevelopment or rehabilitation as a result of a disaster.

Federal law requires that a public hearing be held on an urban renewal project prior to formal approval of the Urban Renewal Plan or the acquisition of any project land by the LPA. All persons, including representatives of organizations, are thereby permitted to present their views. Federal law does not require formal acceptance of the project by persons attending such a meeting. State or local law, however, may have more stringent requirements; these would have to be ascertained for any particular project area being considered.

The impact of including provision for shelters, either as public facilities or as a required characteristic of private construction contemplated for the project, upon public reaction to the overall plan is difficult to ascertain. It is likely that some individuals and organizations would oppose such activity as they did when Congressional hearings were held in the Civil Defense Fallout Shelter Program. Whether such objections would "muddy the waters" and thereby slow the project would depend upon the intensity of the opposition and the extent to which individuals and organizations favoring shelter provision spoke up.

A basic requirement of Title I is the preparation of an Urban Renewal Plan by the LPA and its approval by the governing body of the locality. This approval must contain the findings that:

"(1) The Federal financial aid to be provided is necessary to carry out the project in accordance with the Urban Renewal Plan.

"(2) The Urban Renewal Plan will afford maximum opportunity, consistent with the sound needs of the locality as a whole, for the renewal of the urban renewal area by private enterprise.

"(3) The Urban Renewal Plan conforms to a general plan for the development of the locality as a whole.

"(4) The Urban Renewal Plan gives due consideration to the provision of adequate park and recreational areas and facilities as may be desirable for neighborhood improvement, with special consideration for the

health, safety, and welfare of children residing in the general vicinity of the site covered by the plan."\*

If civil defense considerations are regarded by Congress as important, a fifth finding could be added by an amendment to Section 105(a) of Title I of the Housing Act. Such an amendment could be worded as follows:

"The Urban Renewal Plan gives due consideration to civil defense considerations in its land use plan and project proposals and to the provision of shelter capability where feasible and consistent with the general shelter plan of the locality as a whole."

This type of requirement does not make shelter construction mandatory but does require that LPA's and local governing bodies recognize the potential contribution to civil defense that could be made by the Urban Renewal Program.

The only provision in the federal law relating to urban renewal and civil defense is a general one contained in Section 811 of the Housing Act of 1954: "The Housing and Home Finance Agency, including its constituent agencies and any other departments or agencies of the Federal Government having powers, functions, or duties with respect to housing under this or any other law, shall exercise such powers, functions, or duties, in such manner as consistent with the requirements thereof, will facilitate progress in the reduction of vulnerability of congested urban areas to enemy attack."\*\* This mandate has been specifically applied to the Urban Renewal Program only with respect to non-cash local grants-in-aid which are discussed at greater length below.

There would appear to be sufficient authority in Section 811 to broaden the application of this provision. The LPA has considerable

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\* HUD, URA. Urban Renewal Manual, Sec. 10-3-1.

\*\* 83rd Congress, 2nd Session, PL560.



influence upon the characteristics of the investment in the renewal project since it determines the location of the project, the size of the parcels for disposition, the limits upon how the property is to be used as defined in its Urban Renewal Plan, when disposition is to be made of the land parcels, the minimum acceptable price for the land, whether or not the land is to be sold or leased, and how the award for project land is to be made. Not only must the developer or developers comply in general with the Urban Renewal Plan, but his detailed plan must be approved before the final deal is consummated. In theory, therefore, it would be possible for the LPA to build shelter provisions into its Urban Renewal Plan, or, at a minimum, include general civil defense considerations. The plan already specifies types of structures, density, height restrictions, parking provisions, etc. and civil defense considerations could be included explicitly.

There may, however, be express limitations in some state or local laws that would prevent this extension of program scope. Furthermore, some local jurisdictions may be able to act only if express authority is extended to them. The suggested amendment to the federal law (if properly worded by a legal draftsman) would eliminate such problems, if reflected in state enabling legislation.

One general objection that has been raised to the Urban Renewal Program that is particularly applicable in this context relates to "the multiplicity of agencies with fingers in the urban renewal pie, especially since agencies frequently work at cross-purposes and display a striking lack of coordination."\* The addition of another agency would further complicate this problem and would result in additional complaints from critics who are concerned with this aspect of urban renewal.

The National Planning Association has suggested some changes in program emphasis that might affect the adaptability of the program with respect to civil defense considerations. The first suggestion is that urban renewal and development must be broad and be part of an

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\* Peter Wagner, The Scope & Financing of Urban Renewal & Development, National Planning Association, Planning Pamphlet No. 119, April, 1963, p. 12.

integrated metropolitan or regional plan. One of the major difficulties faced in urban renewal today is the fragmentation of authority characteristic of most metropolitan areas. Currently, there are some 16,000 local authorities in the nation, and most of these are likely to be concerned with some aspect of urban renewal; as of November, 1965, there were 686 LPA's with active urban renewal programs. A shift in program emphasis to larger areas--properly safeguarded to protect the rights of local government--would also be desirable from the civil defense point of view. The problems associated with the multiplicity of governmental units was referred to above under the discussion of local governments.

Another program shift suggested by the National Planning Association was emphasis on the preservation of neighborhoods and "spot" rehabilitation where possible, as opposed to the tearing down and rebuilding approach. Although this shift may be desirable from the sociological point of view, it may make provision of shelter space more difficult.

The cost impact of requiring that civil defense considerations be incorporated in the Urban Renewal Program is difficult to evaluate explicitly. Two routes, or a combination, could be employed to include shelter construction in the program. The developer purchasing the land could be required to provide shelter capability where warranted by the type of construction contemplated (and required as a part of over-all community plans) or the LPA could provide the capability as a public facility eligible for consideration as a non-cash local grant-in-aid.

The latter method, apparently, is permitted under existing regulations but as was pointed out earlier, shelter capability is limited to average occupancy. The amount eligible as a non-cash grant-in-aid is that expended for construction of the shelter or for the facility of which it is a part (subject to certain timing restrictions). Certain conditions that render a public facility ineligible would have to be examined in any specific case. The following are ineligible as non-cash local grants-in-aid: (1) any public utility the capital cost of which is wholly financed by local bonds or obligations payable

solely out of revenues derived from service charges; (2) any public improvement or facility, except a public school, which serves the entire community, such as an expressway, stadium, museum, civic auditorium, theater, etc.; (3) any portion of the cost of a public facility which is financed by special assessment of the land acquired as a part of the project. In view of the limited sources of local funds and the desirability of obtaining dual purpose use of space, these conditions may reduce the ability of many local political subdivisions to take advantage of the non-cash local grant-in-aid part of the program for construction of shelters.

The cost impact of inclusion of shelters in non-cash local grant-in-aid--assuming that such inclusion represents a net reduction in the cash outlay for urban renewal required by the local subdivision\*--is to shift the burden of shelter construction to the federal government. If this technique were applied generally and the effect in all cases was a reduction in cash requirements of local units of government, a substantial increase in the cost of urban renewal--already staggering, in the opinion of many experts--would result. On the other hand, if the inclusion of shelters did not represent reduced cash requirements, local governments would have nothing to gain from this program.

The cost impact of requiring provision of shelter capability, where feasible and desirable from the community point of view, in the construction plans of developers would be distributed between the LPA and the federal government according to the applicable sharing formula. The cost impact depends upon the effect of the requirement on the sale price of the land. If the present value of the decrease in expected return to the developer equalled the cost of providing shelter capability, his bid for the land would be reduced by that amount and the cost would be shared as indicated above. If, however, the present

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\* Since six types of items are eligible as non-cash local grants-in-aid, the additional cost represented by the shelter capability may not be needed by the LPA to meet its 1/3 or 1/4 obligation.

value of the decrease were less because of the willingness of tenants to buy some protection, the cost to government would be less.

The developer, however, does not have complete flexibility because of the requirement that the land price must equal fair reuse value as determined by appraisers and others associated with the program. Whether this would deter developers from participating or, if the shelter requirement were not applicable to all projects, cause them to bid only on those without requirements, cannot be ascertained readily.

### Social Security

The OASDI program, unlike most federal programs, involves taxes, levied directly on individual earnings, that are earmarked for the payment of statutorily-defined benefits to the individual or to his beneficiaries. Although the system has evolved and changed since 1937 when it was first established, several basic, underlying precepts can be identified:

1. Mandatory coverage of the labor force with continuity of coverage regardless of job changes.
2. Financing of benefits through employee and employer contributions.
3. Contribution rates designed to make the system self-supporting and to provide covered workers with at least as much protection as could be purchased with these contributions from a private insurance company.
4. Eligibility for benefits based upon effective retirement or disability rather than upon determination of need.
5. Variation in benefits on the basis of individual earnings subject to a maximum.
6. Recognition of presumptive need through a weighted benefit formula, through supplementary benefits for dependents and through a retirement test.

The OASDI system was designed to provide individuals with a series of payments beginning at some future date of eligibility, not with a lump-sum or capital payment. However, some of the principles underlying the design of the system might be applicable to a program designed to provide individuals with protection at some future date of need.

Careful evaluation of alternatives may support the conclusion that a mandatory requirement of some type may be needed. If such a requirement is adopted, it should apply regardless of job changes or geographical moves by individuals. Eligibility for benefits (protection) should also be available to all. But, obviously, benefits cannot be a function of earnings nor can there be a weighted benefit formula, both of which are characteristics of the OASDI system that tend to introduce progression into the tax structure. If ability to pay is to be one criterion in the allocation of burden it will have to be introduced through the tax structure rather than through the benefit structure.

Use of a wage tax on employees and employers or a tax on self-employment income for shelter purposes is also subject to criticism. There is no rationale to this approach other than to provide a source of funds on a withholding basis. This type of tax is clearly regressive unless specific statutory benefits to the individual can be converted into an offsetting benefit stream (as can be done in the case of OASDI). Furthermore, serious inequities could arise unless credits or exemptions are given to individuals or employers who have voluntarily made their own arrangements for shelter. Some segments of the population--those whose incomes are derived from sources other than wages or self-employment income--would not contribute but would, presumably, be accorded protection should the need arise.

In general, it would appear that the precepts underlying OASDI have limited applicability to the problem of providing capital funds for a nationwide shelter program. If a mechanism as complicated as OASDI and involving a special tax for its support is to be established, serious consideration should be given to the design of a tax that will meet the criteria that have been recognized over time as being important in the American environment.

## Federal Aid for Shelter Construction

Although the above discussion indicates that there are differences among the various aid programs, it is possible to list a number of basic characteristics that apply to most grant programs: (1) each separate grant relates to a single function or activity of government or to a few closely related activities; (2) each is covered by a standing act of Congress that typically specifies the nature of the service to be rendered, the amounts to be appropriated annually, the formula for distributing these amounts among the states, and the conditions the states must accept to receive the funds, usually including a matching provision; (3) each state that wishes to benefit from the program must pass its own law accepting the conditions, including the matching clause, but no state is required to accept the program; (4) states are responsible for administration of the function or activity according to a plan agreed upon by state and national authorities but there is some national supervision and an audit of expenditures by an appropriate national agency; (5) states receive federal payments according to some time schedule in the law or regulations, or when the approved work has been done, but the national government reserves the right to withhold payments for failure of the state to comply with the rules of the agreement.

Federal loan programs have been established both as integral parts of other programs and as programs operating in isolation. Those involving capital funds typically encourage the use of private sources of capital and operate as a supplement to these sources or as a direct source where capital cannot be obtained at reasonable terms through normal channels.

Federal loan programs providing capital funds to local governments, institutions, or enterprises do not prevent the inclusion of shelter capability in construction plans; however, there has been virtually no demand for such capability. Given current public attitudes, it is unlikely that anything short of a mandate would be successful where loan funds are involved. But a mandatory provision applied only to existing federal loan programs would have limited over-all impact and might even reduce program effectiveness. If mandatory provisions are

contemplated, they should be broadly based, rather than limited to a few programs, in order to minimize differential treatment.

As was indicated in the preceding section, the use of existing grant-in-aid programs as vehicles for expansion of shelter capability would appear to be of limited value. Since much of the decision-making is the responsibility of local agencies and since, in many cases, the number of variables to be considered under existing law and regulations is sufficient to tax the capabilities of these agencies, they are reluctant to include additional program considerations. However, it would appear to be desirable to ensure that civil defense needs be explicitly considered by those concerned with capital projects to which the federal government is contributing without necessarily requiring that shelters be constructed. More research needs to be undertaken before recommendations can be made with respect to the types of program situation most adaptable to a shelter construction requirement or with respect to the funding adjustments that would assure reasonable equity in allocating the burden.

The general framework characteristic of the major federal grant-in-aid programs, summarized above, may be appropriate for a nationwide shelter development program. The requirements of such a program imply not only that there be a federal agency responsible for over-all planning, definition of standards, and administration, but that there will be a state agency responsible for the administration of the program within the state and considerable coordinated activity at the local level. The specific delegation to the states by the Hill-Burton Act of responsibility for developing a statewide inventory, preparing a long-range plan, and assigning priorities could also be employed in a shelter program.

Although an inventory of shelter capability has already been undertaken by the Federal government and continual updating is provided for, the necessary supplementary information on detailed requirements within major areas of states where no capability or minimal capability was discovered, should be prepared by local agencies under the direction and

with the assistance of the federal government and the properly constituted state civil defense agencies. Such activities are currently underway as a part of the CSP program.

A comprehensive federal grant-in-aid program embodying the most useful features, from the civil defense point of view, of the various existing program approaches could be devised to cover current civil defense activities, a construction program, and the additional activities that would be required to support an extensive shelter system. But a program of this type will not be passed by Congress unless members are convinced that it represents a major defense requirement, that state and local units of government will be able to assume an appropriate portion of the cost, and that there is considerable public interest. In view of the shortage of capital funds characteristic of state and local governments generally and the relatively low level of concern of the general public for civil defense matters, the present potential of such a program would appear to be limited.

The alternative is to provide for federal funding of the entire capital cost of a shelter development program. The preliminary analysis contained in this report suggests that this approach is potentially the most effective of the alternatives considered. Furthermore, experience to date with other civil defense programs indicates that 100 percent federal funding is required to ensure program effectiveness.

Many national programs are funded on this basis. Some examples are development of offensive weapons, development and operation of foreign bases, and operation of foreign aid programs. If a nationwide shelter program can be shown to be an essential element of United States offensive-defensive posture, funding requirements should be included with those of other program elements. These requirements would have to be subjected to the same scrutiny as is given to those of other major programs and decisions would eventually be made on the basis of Congressional evaluation of the relative merits of the program.



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Alternative Approaches to Financing a Nation-Wide Shelter Program

(UNCLASSIFIED) January 1964 (updated April 1966), 93 pp.  
Stanford Research Institute, Menlo Park, California  
Civil Defense Contract OCD-OS-63-149, Work Unit 1631A

This report presents the results of a preliminary examination of alternative approaches to the problem of financing a nationwide shelter system. Current practices applicable to capital investments by individuals and other segments of the private sector are discussed, some of the problems with respect to their utilization for shelter construction are listed, and incentive programs which could encourage action in this area are analyzed. In addition, local sources of funds and state and federal aid programs are discussed as a basis for evaluating the extent to which each of these levels of government could participate. With respect to federal and state programs, particular attention is given to the possibility of combining civil defense considerations with existing program objectives and to the identification of techniques that might be applicable to a separate national program designed to develop shelter capability.

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